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A THESIS

MOTIVATION IN THE TEACHING OF COMMERCIAL SUBJECTS

by

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INTRODUCTION

Motivation in education deals with the devices and incentives which will create interest and sustain attention. It concerns itself not only with methods but with learning. It has, we may say, a pedagogical and a psychological aspect.

From the pedagogical viewpoint it involves methods. Naturally, the teacher wants to know the procedure which will result in procuring the maximum of achievement in his classroom work. He desires to familiarize himself with plans which will awaken response, afford new stimuli and form good habits.

Taken psychologically motivation has to do with the development of learning. When the child enters his first class-room he is equipped with any number of definite habits acquired in his five or six years of life. How are these habits formed? How is this learning acquired? These questions can be answered only through study of the mental processes, which involves inherited traits and native characteristics. Without such knowledge attempts at motivation by the teacher will prove futile.

This paper treats of those teaching problems - methods and motivation - applied to commercial subjects. Motivation of study is today attracting the attention of all educators and many psychologists. An attempt has been made to discuss this phase of education in detail through information obtained from various publications and from personal observation.

It has been thought pertinent to include a chapter on Commercial Education in general that the reader, not familiar with the subject, may know its trend, need, and object. In the development of the thesis the inclusion of specific course treatment better reveals the significance of "planned" teaching than would an attempt to cover a number of subjects under one general method. While there is, of course, a similarity, the differences seem marked enough to warrant this elaboration.

In its development the three techniques of presentation of subject matter are reviewed in detail. But before these techniques can be developed it is essential for the teacher to know his pupils. That does not imply the knowing that the third pupil in the first row is John Jones and that his hair is as usual uncombed; although the latter is some sort of index whereas the former has no indication. There are all manner of John Joneses in the world. The "knowing" here infers a psychological knowledge. Why is John Jones always untidy? Why is his sister Margaret very neat? Or, why does Paul repeatedly fail while his twin brother Mark habitually passes? Our problem is to ascertain how he learns, the reasons for his individual differences, and how to gain his attention, and sustain his interest.

The scope of this paper is not wide enough to permit detailed psychological analysis, but an affort has been made to show its importance in the relationship of teacher and student.

CHAPTER I.

LEARNING

ITS LAWS AND ACQUIREMENT

Since our first consideration is the pupil, let us analyze him. We are presupposing a degree of intelligence. He is a person who can see and hear, walk and talk. As already mentioned he has formed any number of definite habits. By the time he has reached high school their number greatly exceeds that which it was when he entered the kindergarten or first grade. He has not only formed habits but he has learned a great deal.

In the sixth or seventh grades he may have learned how to compute insurance premiums or he may have memorized Longfellow's Village Blacksmith". In the intervening years this learning has probably been stored in an inner recess of his brain. When the Bookkeeping teacher commences her lesson on the "books of John W. Pray Insurance Company" with an example in premium-computing this knowledge harbored in the different nerve cells, stirs, works its way through the efferent nerves and the habit once formed and stagnated through disuse becomes now active. The same is true in the English course,

"Under a spreading Chestnut tree
The village smithie stands"

becomes an active memory when the Literature period concerns the venerable poet of Cambridge.

How did the pupil acquire this knowledge? What was it that made him capable of learning? To answer questions we must begin with the first moment of the child's development, for learning is an inherited characteristic. The child enters the world with a number of unlearned reflexes, instincts and capacities. His ability to learn depends upon the development of the neurones within him. Neurones are the smallest unit in the nervous system. Their resistance to learning is in the beginning very high.

The simplest learning is that of the recording of patterns upon the cortex, according to Troland's definition the highest and most complex adjustor of the brain. At birth there are few patterns among the neurones which are ready to function, upon their modifiability all learning depends. The predominating learning process is the connection of motor reactions or conditioned reflexes with specific stimuli.

In the example of the child who did not fear the dog until the sight of the dog become associated with the striking of a hammer. The response is a learned one. It is because the child fears the loud noise that he learns to fear the dog, for he associates the dog and the noise. In other words his fear of the dog is conditioned through the striking of the hammer when he attempts to touch the dog.

Primitive learning is acquired through the system known as "trial and error". Numerous experiments of this type of learning have been made with animals and with children. Through random movements the correct response to a given situation is finally adopted. The animal or child may go through a number of unnecessary movements before finally selecting the correct response, the unnecessary being eliminated in favor of those which produce the end desired, response.

The child when given its first wind-up try examines it, pushes it around. He goes through all the known movements which he uses with his other toys. When it is wound up for him, he may dance to see it spin across the floor, and when it runs down examine it again, watch it being wound up. He may have the toy a week or more before he is successful in winding it so that it will perform as it does when his father or brother winds it.

These simple connections- the introduction of new stimulus and the awakening of new responses combine in the formation of integrated habits. The child of three has acquired any number of definite responses to given stimuli. He has learned to shun the stone. He has learned to talk, and not only to talk but to associate words with objects which they represent. In the pages of his picture book he can distinguish the horse from the chicken, the sheep from the cow. He can manipulate the simple toys with which he plays.

When a new pattern is introduced to him he retroverses all the known patterns until he finally strikes that which produces the correct response. After once finding this response, he gradually eliminates all the unnecessary movements.

The more complex type of learnig imitation and reasoning. It is only natural for humans and animals to imitate the actions of others. The small girl is very fond of donning mother's cloths, of imitating mother's walk and talk. Animals invariably ape each other - birds fly in flocks, sheep travel in herds. The learning process involves a situation (S) which arouses action, and response (R) which produces the results of the action on an individual. Jordan uses "situation" rather than the term "stimuli" as being more inclusive, for several stimuli may be combined to produce a given situation. In learning to make an adjusting entry a student has the stimuli of (1) figures; (2) accounts; (3) known methods; (4) new methods.

LAWS GOVERNING LEARNING

There are three major laws governing learning. They are the laws of exercise, readiness and effect.

By the law of exercise we mean the strengthening of the connection between stimulus and response by continued exercise. However, the effects of this law depend upon three other minor laws which are:

(1) The law of frequency which refers to the effect or result of repetitions. How ofter should the pupils practice the a - s - d - f - g lesson in the typewriting course? There is a point at which repetition reaches a point of deminishing returns.

(2) The law of recency, what one has learned may be forgotten through disuse as illustrated on a foregoing page in the case of the pupil and his arithmetic knowledge.

(3) The law of intensity which may be also termed "vividness". Under this law comes those experiences which one never will forget, such as the day when she almost were drowned, or her first ride in an airplane. This law implies that vigorous drills for a short period are more valuable than half-hearted long drills.

The second law is that of readiness and depends upon the willingness of neurones to act. Adams & Taylor in an introduction to "Education and The teaching Process" describes it thus: "When the neurones are ready to act, action gives satisfaction, and when the neurones are not ready to act, action brings dissatisfaction. (1)

The law of effect governs the response to a situation. When the connection between them is satisfying there is a tendency for it to be repeated, When it annoys or dissatisfies, it is eliminated.

(1) Adams & Taylor "Education and the Teaching Process". 'Introduction'

HABIT

Learning, nevertheless, is more than the formation of a fixed connection between situation and response. It involves the organization of the connections. To quote Jordan "The exact process of integration of simple habits into more complex ones is not understood. Certain steps in the process are undoubtedly omitted and certain other processes so fused that several stimuli are responded to as if they were only one. This fusion of stimuli is made possible by some of the simpler connections being made automatic so that they practically run themselves." (1)

In considering the formation of habits it is essential to remember that learning takes place in stages. In the initial stage learning takes place at a very rapid rate, stimulated by the introduction of new material. The creation of new stimuli invariably results in the formation of new habits.

The first stage is generally followed by a period in which there is slight progress, or none at all. This period, or periods, in which learning practically ceases, is known as the "plateau" period, as called because while there is no retardation (slope downward) neigher is there any advance (rise upward). The reasons given for these plateau periods are:

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(1) Jordan, A. M. "Educational Psychology" page 75

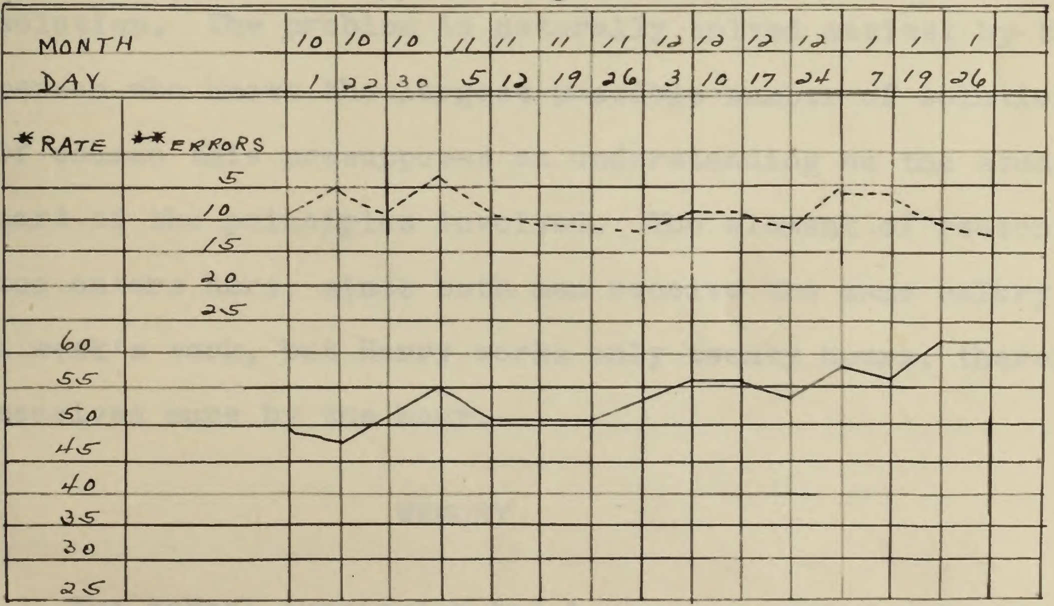
1 The need for automatizing of simple habits-- as may be the case in the typing course.

2 A lack of interest. This may be found in those courses which are developed through the technique of "Appreciation". When the lesson is overlong or goes beyond the student's comprehension, interest wanes.

3 The arrival at a difficult stage in the learning process. In the Bookkeeping Course the introduction of adjusting entries may halt the progress.

The progress in learning is what is known as the learning curve and may be best illustrated through a graph.

Progress Graph for Timed Tests
Typewriting



*Rate per minute **Errors for 15 minutes
---Accuracy record ___Speed record

"The Balance Sheet" October 1932 page 84

This graph tends to convince that skill depends upon habit or repetition in many instances, especially where mechanical and mental processes are combined. When the former becomes automatic, tension is relieved thus permitting concentration on the latter.

In learning calling for the solution of a problem the process of selection and elimination are highly important. In the problem, "If John works thirty hours a week and receives seventy cents an hour and Harry works twenty hours a week and receives twenty-one dollars a week, who receives the larger salary?" the student must have formed the habit of multiplying, subtracting, and dividing. He must recognize that these habits constitute a solution of his present problem. If the student can figure algebraically as well as arithmetically, he is more likely to find the correct solution. The problem is naturally solved easiest by the person who knows the largest possible number of solutions. Of course this presupposes an understanding on the student's part of the principles involved. The element of reasoning too enters here, since both men receive the same salary for a week's work, but Harry works only twenty hours, therefore receives more by the hour.

MEMORY

The school curriculum has become so varied and enlarged that it is a problem to determine what we wish and expect the student to remember about his many courses. The ambition

of the teacher is that all of the subject will be retained. As this is only an ideal it is necessary to select "the knowledge which is of most worth for compulsory instruction, and then employ only the most effective methods of teaching." (1)

"Memory is the recall of the appropriate response in a given situation". (2) Other definitions of memory are the association of mental images, and the connections between a stimulus and response. From these definitions it is to be noted that there is little difference between habit and memory. "Both are governed by the laws of association". (3) However, there is a distinction in that habit is more often connected with responses for automatic motor skill, and memory with mental or thought processes.

The power of retention is the most important factor in memory, This ability differs with each individual because of the degree of development of the neurones, which are the smallest unit in the nervous system. Their capacity differs with different brains, some make the correct recall easily, others with great difficulty, and others not at all. The quality of the retentiveness depends upon the vividness of the impressions made upon the neurones. These brain cells are an inherited characteristic and all learning depends upon their development.

(1) Trow, W. C. "Educational Psychology" page 248

(2) and (3) Strayer, G. D. "How to Teach" page 73

The power of retention is lowered when the nervous system is impaired by poor health, lack of sleep, worry, fear, etc. The student's mental state will be helped when the nervous system is in good condition.

In teaching it must be kept in mind always that the retention of ideas or facts depends primarily upon the significance to the learner. If the learner can associate these with his previous experiences, he acquires the ideas of facts more readily and is much more apt to retain them. The experiences too must be organized. There must be some relationship between ideas. As has been previously stated, repetion is an aid to retention. There is though a point at which repetion may become ineffective. When there is no reaction or no retention, further repetition may be not only ineffective but harmful. The effectiveness of retention depends upon the intensity of the reaction and the distribution of the repetions.

Memory may be classified (1)

1 Rote Desultory Logical

Rote memory is that association given to special arrangement of words, a certain order or rhythm. The child finds it easy to remember the nursery jingles.

Desultory memory is that association retained by vividness of presentation. The fact or idea was

(1) Strayer, G. D. "How to Teach Chapter V Page 83-85

forcefully impressed upon the neurones. The soldier boys wish many of their experiences were not so deeply imprinted in their memory.

Logical memory deals with arrangment of ideas for lasting retntion. The ideas "should be associated around some particular problem or situation to which the student is vitally interested". (2)

Then there is "forgetting". The association is not connected; "the fact has faded from memory". (3)

Memory is the power of retention dependent upon the inherited neurones, and the number and organization of associations.

Upon the learner's activity depend the methods of presentation of a subject. To stimulate and direct his students in appropriate learning activity is the teacher's task. Lomax summaries the principles of learning as:

1. "Learning the result of practice.
2. The best practice is precise practice.
3. The precise practice for initial learning of any subject should be simplified practice within the worthy life experiences of the student.
4. The student should learn precise practice at the rate consistent with best quality.
5. The student should tend to learn a subject in large rather than small divisions.
6. Learning should take place in accordance with certain laws". (1) Readiness, Exercise, Effect.

(2) (3) Strayer, G. D. "How to Teach Chapter V Page 83-85

(1) Lomax, Paul S. "Commercial Teaching Problems" Pages 127-128

INDIVIDUAL DIFFERENCES

The factor or law of variation in individuals is one which makes classroom teaching problematical. Today with compulsory school laws this is even a more serious matter, for the misfits are compelled to remain in school until they have reached the required age. It is no doubt this factor of "differences" which has given rise to the intense interest of educators in Motivation.

Before turning to Motivation it is essential to know the causes, the manner, and the amount of individual differences.

There are two major sources for individual differences

1. Biological heredity by which naturally we mean the traits and qualities an individual inherits from his ancestors, such as his race, physical and mental differences. The Jew inherits a desire for the making of money; the Scotchman a desire for the saving of it.
2. Social heredity which means the traits, habits, customs and characteristics inherited from the society into which he is born. This heredity is known also as environment.

Age difference is one that has considerable bearing on the child's development. He gets along better with children of his own age. Schools are taking cognizance of the fact and today many children are promoted "on probation" so that

they may fit chronologically.

There is the difference in sex, although as yet not much light has been thrown upon these differences. It has always been supposed that the male of the species was brighter than the female, that the latter, according to some writers, are better in rote memory and language courses and the former proficient along mechanical lines and in problems involving reasoning. As to segregated education over co-education it may be that under certain conditions the former has advantages. The matter of sex in education is one which is now being given much thought.

The pupil's interests, instincts and aptitudes govern his activities. His interests and likes invariably influence the work which he does.

It is becoming more and more evident that our emotional make-up has an extremely important part in guiding our decisions. A pupil may do "A" grade work in his History course for one teacher one year, while for another the next year he does not even do passing work. The second teacher pronounces the cause "Inattention, indifference", but the pupil knows it is because of his antipathy since this teacher had once accused him of laughter and disturbance for which he was in no way responsible.

It may be seen then that individual differences have a controlling influence in education. While in the majority of schools grading is according to age, there is a much

greater attempt today on the part of teachers to recognize these biological and social differences. The extremely important part which these differences play in the child's mental development is recognized by all outstanding educators.

There has been a recent movement to know the learning capacity of the pupils by various tests, and to make comparisons between the differences which were found as the result of the tests.

It has been advocated that:

1. Find the individual differences,
2. Classify the individual differences,
3. Provide a course of study suitable to the classification, in the way that all will be receiving the attention best suited to the indivual group.

ATTENTION

Differences in capacity, training, and experience account for the variations in attention given to a subject. Other variations may be accounted for by the ability to transfer attention rapidly from old idea to new idea and, conversely, from new back to old. Attention continued upon one particular response decreases the respondent's ability and desire to be aroused by a different idea.

Concentrated attention depends upon the degree of depth according to:

Mental and Physical conditions
Individual differences
Ages, association of experiences, and
Training

Varying amounts of concentration, from absorption lasting hours to attention of a few seconds, may be apparent in a given group. Those members of the group who are absorbed will be most likely the ones who know most about the subject, to whom the matter is suggestive or recalls past experiences. To those for whom it holds merely fleeting attention it is undoubtedly alien or unfamiliar ground. Association of experiences, therefore, is a dominant factor in determing the time that will be given to a subject.

CLASSIFICATION OF ATTENTION

Differences in attention may be classified according to the mental activity aroused. That given automatically, spontaneously may be called direct attention, that impelled by inducement or compulsion, creating a feeling of strain and annoyance, comes under the heading of indirect attention.

Play, for example, is given spontaneous attention. To an irksome task, such as home-work, attention is given unwillingly. The funny sheet of the evening paper under the geography text receives greater attention than does the chapter on cotton growing.

Spontaneous attention is characterized by unity and direction to one idea. The boy at the baseball game is not thinking of the lawn that his father said must be mowed

before sundown. Every energy, impulse and idea involves strikes, home-runs, and flies.

Unity is not present when the attention is not spontaneous. Direction is divided among a number of interests. The feeling of need and of achieving success are absent. There is very little concentration. In school work attention is very frequently given unwillingly. The pupil may be seemingly attentive. When called upon he may be able to name the chief export products of England and Wales, yet his thoughts may be quite far removed from the class-room and the subject.

To obtain the best results, direct attention is naturally the aim for which to strive, and though in a group it may seem impossible to attain this, attention can be cultivated and through the proper teaching devices pupils may be taught to concentrate. There will be differences in experience, in age, in associations, and in mentality. Accordingly, the reactions will vary from spontaneity to utter indifference. Where the attention is direct the subject appeals for its owk sake. Where attention must be aided invariably a motive or incentive is attached to it. Provided with sufficient inducement attention given unwillingly in a group may merge into spontaneous attention.

INTEREST

To take an interest in a subject is to be vitally concerned with it. John Dewey in his small book entitled, "Interest and Effort in Education says, 'Interest is first active, projective, or propulsive. Second, it is objective. Third, it is personal; it signifies a direct concern.

Methods of holding the pupil's interest are being given careful study, for teachers realize that an interested pupil acquires knowledge much more quickly than one whose attention is divided between his lesson and perhaps his football team.

It is certain that the pupils interest will be gained if the lesson is one which he is concerned. In the teaching of long division if the teacher puts upon the blackboard this problem: Divide 100,450 by 450, there is no stimulant to the pupil; but let the teacher say that 100,450 represents the receipts at the football game Saturday afternoon and 450 represents the cost of a ticket, and immediately the pupil is concerned. How many boys and girls are there who are not interested in knowing how many people attended the game? The boy may be aspiring to the football team when he enters college and the girl may be visualizing herself as one of the spectators.

Interest may be most quickly aroused through association with one's surroundings and through its personal connections.

To arouse this interest in class-room presentation of subjects the teacher must resort to incentives and devices for its procurement. In the following pages motivation and its effect upon class-room work will be reviewed.

CHAPTER 11.
MOTIVATION

The LESSON UNIT might first be mentioned since it is perhaps the best method of presenting a subject and therefore an indispensable part of the idea of motivation. A unit should be so arranged as to procure the desired results from the entire class or group. This includes those students who will give free attention, others whose attention must be forced, and the one or two students whose attention will appear to be under the classification "nil".

A unit of subject matter included an integrated section organized to impart specific knowledge. A carefully selected and serial arrangement of material should be developed for any course of study. This unit may be one lesson or a group of lessons. The subject matter and the maturity of the group are the determining factors. Each lesson in the unit should be adequately and completely presented.

Subject matter thus presented becomes objective, purposeful, and effective. A test given on completion of the unit will reveal the degree of acquisition.

In lesson planning a single lesson scarcely provides a sufficient unit of thought. A unit of several lessons or more is a sound, reasonable basis. This permits the liberal arrangement and organization of material.

The preparation of a minute, detailed lesson is frequently a mistake. A large, simple plan covering a series of lessons produces letter results. And often an even more satisfactory and effective method of lesson planning is that of preparing several units covering an integrated section.

A lesson unit must be of sufficient scope as to be a comprehensive sector of the subject, a part which can be readily taught, and on which tests can be based to determine the student's acquisition.

THE PRINCIPLES OF MOTIVATION As it appears that the unit is the best plan of presentation, the teacher's next problem is the consideration of methods of presenting the unit. The essentials of educational psychology should be mentioned here, They are:

1. A recognition of the psychological law that interest increases activity.
2. The adhering to the educational principle that to be effective school work must be vitally interesting.
3. The development of this principle through classes so conducted that the student not only learns but is interested in learning.

Increased activity is aroused by interest; interest begets effect. The problem, therefore, is to develop a method that will create in the student a desire to act willingly, agreeably, and purposefully. In other words, to devise a plan that will produce the greatest amount of free attention in a group or class.

Motivation then is a plan or method of stimulating interest in a subject. If the student discovers that a subject is essentially valuable to him, that he may use it to attain a desired end, his interest will be stimulated thereby. On the teacher's part there should be an attempt to discover the motives that impel student interest and so motivate his teaching. It is assumed that in a group or class more than one motive will be disclosed and that the teacher will so arrange his work as to reach the greatest number of his students.

When the student feels a "worth" in the "end", the teacher secures genuine and continuous interest. It is the teacher's duty to provide motives that will permit or develop favorable learning situations. To do this a teacher must know the conditions controlling student activity.

In selecting motives or incentives the teacher should be guided by the following principles:

Is it suited to the student's development?
Is it related to the subject matter?
Is it transferable to the student's outside interests?
Is it stimulating?
Is it attractive? (without loss of objectives)
Is it natural?

In selection the best results will be obtained by appealing to certain instincts and capacities and through a correlation of subject matter. This method may be referred to as "natural" that is conducive of creating spontaneous attention or attention brought through a natural stimulus. This motivation yields the best results. The habit is more quickly formed; the work easily accomplished. It also produces greater unity, self-activity, satisfaction, and success.

Prizes and rewards are considered artificial incentives. The danger in resorting to this type of stimulus is that the student is apt to lose the object of the lesson itself in striving for the prize. The means may be so attractive that the student is merely entertained, his attention being divided between the lesson and the entertainment. This attention lasts only until the prize has been awarded; or, saying it another way, attention ends with the cessation of the entertainment. The creation of this form of attention is contrary to the principles of motivation.

APPEALS IN MOTIVATION The purpose of education, which is to fit the student for life, is the local point upon which attention should be fixed. In teaching, the problem of interest and attention should be centered upon those activities which will bring about the realization of that purpose.

The teacher should not expect to secure the same attention or reaction from each individual in the class because of a variety of circumstances, such as age, ability, intelligence, and so on. Also in motivation, the teacher has to remember that a motive which appeals to one student will have no inducement for another.

In appealing to a group the teacher must provide a motive suitable for arousing the proper instinct. Instincts, which are the basis of all interest, may be classified as:

1. "Individualistic
    Self-preservation, fear, pugnacity;
2. Parental
    Protective instincts, display, accomplishment;
3. Social
    Companion seeking, sympathy, love of approbation, altruism;
4. Adaptive
    Imitation, play, curiosity;
5. Regulative
    Moral and religious impulses;
6. Resultant
    Collecting, constructive, expressive, aesthetic. (1)

These varied instincts form the basis of motivation. Of course the teacher cannot perceive at once the motives which will impel students, either individually or collectively. It may be that some few students will never reveal the reason of their interest, while others will fail to be

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(1) Rose, S. H. "Habit Formation and Science of Teaching" page 79.

aroused by even one of the many motivating devices. The teacher should, however, try to appeal to every motive revealed in a group, stress being placed on those motives which arouse the majority.

SELECTION OF SUBJECT MATTER For the most effective teaching subject matter must be properly selected and arranged. Parker has given the following principles as a guide;

1. "The selection of subject matter in relation to varying social needs.
2. The determination of relative values.
3. The intensive treatment of fewer topics.
4. The organization in terms of the learner rather than in terms of the subject itself." (1)

Social values are stressed in the early years of secondary education, vocational values being moved up to the later years. The teacher must take this into consideration in preparing his subject matter. The social needs of a city high school will differ from those located in a suburban center.

The teacher also should have a thorough understanding of the subject's worth and the specific value of each topic. This will enable him to prepare a list of relative values.

(1) Parker, Samuel Chester - "Methods of Teaching in High School" page 52

Intensive treatment of fewer topics is the tendency at present in the content subjects. Work on larger projects with thorough treatment is better than encyclopedic study of many topics.

When the subject matter is arranged in terms of the learner, it will be adapted to his needs, interests, and capacities. This is an important issue in all high school instruction.

SELECTION OF INSTINCT After the unit of subject matter is selected and arranged, a decision must be made as to the appropriate appeal; that is the one which will best obtain the result desired. A treatment that may be suitable for one subject will not be for another. Infrequently the failure of students to make continued progress occurs because the stimulus to success has been unfavorable, removed, or fully utilized.

There is that DEGREE OF INTEREST which so absorbs in the seeking of the desired end - accomplishment, invention, discovery, power, wealth - that attention is concentrated to a degree that for the time being excludes unrelated matters. The teacher's efforts may never reach such ideal heights, but the nearer approach is made to it the more successful will be his teaching.

Since the primary element in teaching is a human one much depends upon the teacher's psychological instinct.

Interest once aroused must be continuously accelerated. In this way only can the teacher obtain that curiosity or concern that will beget results.

INCENTIVES AND DEVICES FOR MOTIVATION

Although there are definite teaching methods and techniques best suited to the learning process of a given subject, it will often be necessary for the teacher to use some motive, incentive, or device to sustain interest. If the student is not interested in the study his progress will be retarded. To prevent this retardation and to keep the learner progressing until the goal is reached teachers have developed and used devices of various kinds. These are plans or schemes that will aid and urge the student on to acquisition.

Motivation incentives must conform to certain pedagogical principles as well as to the teaching techniques used for the different kinds of learning. They must have:

A definite object

A primary and secondary learning outcome.

They should be:

Suitable to the school (administration and equipment)

Suitable to the teacher and class

Suitable to individual differences and for group use

Suitable to the student's interests.

A good teaching device should develop the specific and the general aims of the lesson. To illustrate, from a debate on "The Recognition of Russia" the students gain a knowledge of the articles of trade and trade relations and in addition an appreciation of the interdependence of the countries of the world.

When using such an incentive, the teacher should not permit it to conflict with any school regulation or activity. If a teacher is attempting to use a device adopted by another, he must be certain that similar conditions prevail if he wishes to obtain similar success. "A driving, energetic, dynamic teacher may develop a teaching device which will yield most gratifying results. A mild, placid, easy-going teacher attempting to use this same device will not be able to do so effectively, for her class, long habituated to her calm personality, will fail to respond to the device. The device, when used in a different teaching stiuation from that in which it was developed, was bound to be ineffective." (1)

In a given classroom the teacher naturally finds students of varying capacities and abilities. It becomes a serious problem to meet this situation so that the lessons will not be too easy for the students of high abilty or too difficult for those of slower mentality.

(1) Eastern Commercial Teachers' Sixth Yearbook, Page 22.

The lesson should be prepared so that each student will progress at his individual pace, all students deriving some definite benefit.

A good teaching device should stimulate the student socially. He is being educated for the "business of living" and for this reason the device should possess some quality that he may use as a "worker, a member of a family, and as a citizen." (1)

Standards for judging a teaching device are classified as:

I. "To Outcomes - Is the device to

1. Attain a specific, definite change in the activities of the learner?
2. Effect desirable concomitant learnings as well as direct learnings?
3. Contribute to self-direction of their learning activities by the learners?
4. Secure the maximum of valid generalizations by the learners?
5. Integrate school learnings with the out-of-school activities of the learners?

II. As to the teacher - Is the device suited to

1. The controlling school conditions?
2. The sequence of learning activities?
3. The teaching personality of the instructor?
4. The pupils as determined by inventory and aptitude tests?

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(1) Eastern Commercial Teachers' Association, Sixth Yearbook; page 25

5. Use with the minimum of teaching effort?

III. As to pupils - Does the device

1. Enable the learners to understand clearly just what outcomes are sought?

2. Make apparent to the learner the usefulness to them of the outcomes sought?

3. Stimulate the learner to use vigorously their normal activity drives in the exact learning activities necessary?

4. Require the use of learning activities which the pupils can successfully direct?

5. Enable the learner to judge accurately the success of their learning activity?

6. Enable the learner to achieve a satisfactory degree of success?

7. Facilitate the attachment of satisfaction of desirable outcome?

8. Provide for individual differences affecting the learnings sought?

9. Facilitate pupil participation in compiling class records?

IV. As to effectiveness - Does the device

1. Use the learning activities which are most suitable for attaining the maximum of the exact outcomes sought?

2. Reduce to the minimum any undesirable outcomes?

3. Involve the optimum length of learning activity for the kind of learning involved?

4. Prevent both over-learning or under-learning?

5. Utilize effective distribution of practice and review?

6. Secure effective integration of old and new learning? (1)

(1) Eastern Commercial Teachers' Association Sixth Yearbook 1933; page 27

CHAPTER III

COMMERCIAL EDUCATION

A GENERAL CONSIDERATION

This Thesis deals with the motivation of pupils in the high school. Since it is being written as a requirement for a degree in Commercial Science it is only natural that it should consider the Commercial curriculum.

Today some phase of business enters into every part of our social structure; therefore a business education is an essential part of school training. Every student should be provided with some business knowledge. For the student who decides on "business" as a vocation provision should be made for specialized business training.

And since the commercial world has become such a factor in our every-day life it seems but natural that the Commercial Course in our high schools has become the largest department in the curriculum. Courses unheard of ten and even five years ago are now a cardinal part of the preparation for business or commercial life.

Of course it would be inane to suppose that Commercial courses alone will fit the student for life. Cultural subjects; English, History, Science, Languages are not only necessary, but in their wide scope reveal to the student the rudiments of living.

To acquire, strengthen, and maintain a vital interest in a subject it is essential to prepare a method of presentation from which will evolve the desired outcome. Motivation is that means of creating a stimulus which will arouse in the student a real need by increasing his interest. by inspiring him and urging him to the highest attainment by setting a goal at which to aim.

It is apparent that the need for motivation varies from group to group and student to student, according to inherent characteristics, environment, and intelligence. Since the majority of students are guided by their emotions rather than their intellect, interest arousing methods are a vital factor in all learning.

Commercial education is, however, the theme of this thesis and its first consideration is the need for business training.

The business world now demands fully equipped employees who can cope with the complexities of commercial life. One of the major problems of commercial educators is the development of workers who will have skill plus quality. Education must be broadened to fit new trends.

While the secondary or high school does not permit the intensive specialization offered by the collegiate schools an attempt is made to fit the student with at least the fundamentals.

The Commercial courses common to all high schools are; Bookkeeping, Shorthand, Typewriting, and Commercial Geography and Law. The required Academic courses for students taking the "Commercial Course" are; Language, History, Science, and in some cases Mathamatics.

OBJECTIVES OF COMMERCIAL EDUCATION Recent studies have been made in an attempt to discover the major and minor objectives, the vocational and non-vocational aims of commercial education. There has been a distinction between preparation for initial positions and later advancement.

The information revealed by these studies has brought about a tendency away from the traditional objectives which were:

Health Promotion
A command of the fundamental processes
A training for good citizenship
Vocational preparation
Advancement
Advantageous use of leisure
Development of ethical character

The newer objectives, it was found are determined by the need for general business information and for vocational business training. These needs will be discovered through an analysis of business opportunities (in normal times); the requirements for different positions in the commercial world; of employees - successful, average, and problem; and of students desiring business training - their abilities, traits, interests, and similar factors.

The main objectives of commercial education have been divided into (a) social fitness as offered in the general business course, and (b) vocational preparation as offered in the specialized business course. These may be summarized as a combination of the traditional plus general business information, and the traditional plus specialized business information.

THE TREND OF COMMERCIAL EDUCATION IN THE JUNIOR AND SENIOR HIGH SCHOOLS

The recognition that there is a business side to all phases of society has lead to the introduction early in the high school curriculum of subjects relating to business. A few years ago a General Business Information course was placed in the Junior High School curriculum to give the drop-outs a knowledge of business practice and those students who remained a preparation or foundation for senior business instruction.

To determine the necessity for vocational business courses in the Junior High schools surveys have been made and the conclusion reached that they are not essential. The General Business Information course, it was decided, suffices for Junior High school training, for the majority of students today complete their Senior High school course.

Through the up-grading of the Commercial Course a revision in the Senior High school program became necessary. Vocational courses have been advanced to the closing Senior High school years.

JUNIOR AND SENIOR HIGH SCHOOL CURRICULUM

The objectives of the general Commercial Course in the Junior High school are:

1. To facilitate transition to Senior High school work.
2. To acquaint the student with an understanding of business methods and procedure.
3. To instill a knowledge of simple clerical routine.

This instruction serves as a basis in the more advanced courses and is beneficial to students who do not continue with commercial work. It also inculcates interest in a practical subject which may prove an incentive to further study.

The Senior High school curriculum covers broadly the social subjects and provides, in the closing years, quite intensive vocational training.

Business information in the Junior High school curriculum covers such courses as "Commercial Branches," "Commercial Education," "Clerical Practice," "Junior Business Training," and in addition in many schools they provide the "Typewriting" course.

In the Commercial department in the Senior High school the courses are: Bookkeeping, Office Machine Practice, Salesmanship, Advertising, Shorthand, Typewriting, Commercial Geography, and Commercial Law.

Commercial education properly presented should fulfill these qualities:

Intellectual
Aesthetic
Emotional
Social

and prepare the student for his life work through vocational training.

Much time is being devoted to the study of the requirements of the business man that the student may be best equipped to serve his needs. This study has resulted in further course revision in an effort to bring about closer relation between business and school.

In the vocational training courses in some instances opportunity is afforded for actual business practice; such as selling in the department stores during the Christmas season or fill-in and extra work in offices. At the moment, because of the abnormal situation created by the current depression, opportunities for such employment are not so prevalent. It is hoped when normal conditions are restored that students may learn from actual experience to an even greater degree than they have in the past.

CHAPTER IV.

DRILL SUBJECTS

MOTIVATION METHODS

We have considered the pupil and we are ready now to look at the teacher's problem. We have said that the teacher is concerned with devices and incentives for creating attention and sustaining interest. It is her aim to present the subject to her pupils in such a way that they will derive the greatest benefit from the course. To do this she must know the best method of presentation of her subject.

As the purposes and aims of the various courses in the curriculum vary so, too, do the outcomes and results desired. This suggests the fact that there must be a different method for the presentation of each subject; a technique that will better achieve these purposes.

Frequently it is difficult to ascertain which technique is best suited to a given subject because a combination of methods of presentation will be more effective. However, it is possible to apply the main teaching techniques; Drill, Appreciation, and Problem to Commercial subjects when the desired outcome is known.

METHODS

DRILL TECHNIQUE Since a unit is a plan of instruction and motivation that factor which gets the plan underway, the technique to be used for its presentation must be considered. Here again the subject matter must be reviewed. Is it suitable to memory procedure? Is it a subject that should be made automatic? If it is such a subject, drill is suitable for acquiring habit formation and skill. By the use of drill the study is fixed through exercise and repetition, with emphasis on "effectiveness of frequency."

In the FORMATION of HABIT drill procedure is the first consideration. This may be classified as:

1. The forming of definite habits
2. Showing a need for the drill
3. Motivating the group
4. Repeating to fix the habits leading to skill.

The teacher should analyze the subject matter to know which elements are to become habitual, then he should determine whether the habit may be transformed into a fixed, automatic process. A subject that may be so presented should not be taught by other methods. Stimuli and situations that bring about automatic responses from the students should be applied.

DEFINITE HABIT DESIRED The student will progress in his subject if he has a definite knowledge of the habit to be formed. The best means of acquiring that habit (his desired goal) should be known to him. Arrangement and presentation of lessons should motivate him to be satisfied with nothing short of success and to the realization that only correct practice results in perfection.

His past successes motivate him to continued effort. If provided with directions so that he may perceive his progress, he will eventually master the subject. Success is more easily obtained if the student is provided with motivation sufficient to enable him to realize the need of drill.

THE NEED FOR THE DRILL In the first place the subject should seem worthwhile to the student. He should perceive also in the lesson unit some definite, practical value, if he is to attain skill. When the value is apparent to him, his interest naturally is aroused. Interest and zeal in a drill subject are effective aids to inspiration and counteract the all too frequent monotony of repetition.

Some subjects are readily suited to the use of drill technique. The student's automatic response depends upon his interest and, since interest is aroused through proper motivation, the teacher must provide lessons conducive to stimulation.

REPETITION TO FIX HABIT Drilling implies the formation of habit; habit comes through repetition; repetition produces facility and skill. There should then be "persistent retroversing in whole or in part of a more or less definite habit-path in order to make it automatic."(1)

The student should be taught to respond in the correct way so frequently that he automatically responds correctly when presented with the proper stimulus. To be effective the act must be automatic. Many repetitions of the correct habit are necessary to establish skill.

A course may be practical, but presented in such a way that the period is one of drudgery. To prevent this, in the repetition that is required in skill subjects, the lesson may be made more interesting by real life examples. Motives taken from the student's social environment may exert a far greater effect than plans providing other motivation. Interest may be secured by a variation in presentation, by an appeal to curiosity and mental activity, and by providing periods of rest and relaxation.

The following points should be remembered in the automatizing of motor and mental associations:

1. Associations should be made effective by economic practice.
2. Feelings of satisfaction or success and attitudes of zeal and concentration of attention are essential or especially helpful in this process;

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(1) Rowe, S.H. "Habit Formation and Science of Teaching" page 259

3. In memorizing the method of correct recall is helpful because it involves concentration of attention;

4. Memorizing by repeating the whole selection every time is superior because it does not waste time on useless associations and because it secures concentration of attention;

5. Time should not be wasted on accessory processes, such as thumbing dictionaries, and copying problems, but should be concentrated on real processes which are to be automatic." (1)

Drill in a subject has the advantage of securing a minimum standard of proficiency in all learners. It renders performance automatic, eliminating decisions of choice. When well directed, it dispenses with the learning of unrelated material and places effort on the relevant points. It avoids ambiguity, obscurity, and unnecessary work.

There are various disadvantages which poorly directed drill will create. It may become monotonous, so that the pupil exerts little or no effort. Sometimes there is overlearning. Initiative may be destroyed. These disadvantages may be somewhat overcome by frequent short, general drills and more varied types of drills.

A subject which lends itself to teaching by the technique known as "Drill" is one in which skill, provoked by the process of automatic repetition, is the desired end.

(1) Parker, Samuel Chester; "Methods of Teaching in High School" page 143

As "Typewriting" is a skill subject, it adapts itself readily to the "Drill" method. It might be pertinent, to outline in detail the methods and motivation applied in its presentation.

It is essential for the teacher to be familiar with the psychological basis of skill and with the laws governing its acquisition. He should know too the operation of the laws of learning, stimulus, connection, and response.

There are four steps controlling the origin and fixing of habits in learning to type. They are:

1. "Originating or doing the thing to be learned a first time.
2. Selecting the successful response
3. Improving and perfecting the response
4. Fixing it by correct practice." (1)

In the development of a skill subject it is essential to be guided by these steps.

Each learner of touch typewriting must learn to locate accurately each key with the appropriate finger. To do this correctly and easily means that the learner must acquire accurate control over each letter-making movement, giving due attention both to the sequence of these movements in a series of letter-making movements and to their correctness. In typing a letter for the first time there is a connection between the sight of

(1) Book William F. "Learning to Typewrite" Page 40

the letter in the copy with the exact location of the key and the moving of the proper finger to strike that key. The letter-making habit is originated when the sight of the letter in the copy becomes the stimulus that connects with the neurones. "The making of a successful response to each new situation represents one of the most universal and important types of modification of the neurones, Upon which all learning depends." (1) The striking of a key for the first time involves the principle of "negative adaptation" and the action of "Conditioning stimuli" because the student brings to the typewriting class many methods of responding to previously learned situations. Many of these responses will have to be eliminated by "Negative adaptation" because they cannot be used to advantage.

The selection of the correct response is made by fixing the letter in mind, correctly locating it with the proper finger, and striking the key.

When learning the letter "r" the student holds his hands in the correct position over the guide keys; of the left hand they are "a" "s" "d" "f". The letter "r" is located above the letter "f". By using the "f" finger and mentally locating "r" then feeling for the key above "f" then striking it the correct response is made.

(1) Book, W. F. "Learning to Typewrite" page 21

Then a repetition of various combinations of letters, for example "fr" and "rfr" perfect the response and fix this "psycho-physical" habit. When the new letter "t" is to be learned, the student mentally locates it above "f" and a little to the right of "r" and strikes it with the "f" finger. Great care must be taken to fix the position of the letter "t" and to feel the correct distance from the guide key "f". For some students the stimulus of the letter "t" does not arouse the correct response, for invariably they strike "r". This may be due to the location of the letter "r" being overlearned and the neurones not ready or willing to react to the new stimulus "t", and the motor reaction of the distance from "f" to "t" being inaccurately fixed. This illustrates the need for the correct learning of mental and motor habits.

These letter making movements must be initiated and controlled as to sequence and the direction and distance gauged by the appropriate finger. In this letter-association state the "feel" of the movement aids in obtaining the correct response.

If the habit is to be permanently fixed the stimulus, the sight of the letter or symbol must connect with the correct response every time. Mere repetition of a response is not sufficient, there must be "concentration of attention and intention to improve". (1)

(1) Book W. F. "Learning to Typewrite" page 217

Selecting the successful response letter by letter and making a series of responses as the letters are grouped into words is the next operation. If there is an inaccurate control over the sequence of the letter-making movements there will be transposition of letters, words run together and omission of letters. Therefore, much time and attention must be given to improving and perfecting the responses. This is accomplished by fixing the response by correct practice.

PURPOSE OF COURSE A course in beginning typewriting will prove profitable to any high school student, for it is designed to meet the needs of three groups:

1. The non-commercial student who desires a knowledge of it for preparation of papers for personal use and college work.
2. The commercial student who plans to use it in his general business vocation.
3. The commercial student who plans to do stenographic and secretarial work, in which case it is a stepping stone to advanced specialization.

PLACE IN THE CURRICULUM "Typewriting" should be offered early enough in the curriculum to give the student definite skill or ability to accept a junior office position where a knowledge of typing is a requisite. This, in case the student's schooling is completed with his graduation from Junior high school. It may be offered in grades nine to twelve as a two-year subject of five periods a week.

In the case of students intending to take stenography it is advisable to commence the course in the tenth or eleventh year so that it may be started before and later taken with shorthand. Typing correlates with Shorthand, Business English, Bookkeeping, and Office Practice.

AIMS EDUCATIONAL Typing should not be thought of as a purely mechanical process. Provision should be made in all practice work for the student to use his intelligence and knowledge. He should be taught to think as well as to perform, that typing may be educationally as well as practically valuable.

Many instructors consider typing useful in such a number of vocations that provision is made in some schools for students to select it whether or not they are taking the Commercial Course.

VOCATIONAL Since the primary aim of the teaching of typing is vocational, the student should be prepared to meet the standards set by the best business houses. To do this he must develop skill, a fair rate of speed, and also acquire a knowledge of the form and arrangement of business papers.

GENERAL The general aim of the Typewriting course, which is success, should be arrived at through the

1. Cultivation of the proper attitude
2. Acquisition of the necessary knowledge
3. Establishment of correct habits

4. Acquirement of skill and proficiency.

The SPECIFIC AIM of the Typewriting course is to impart to the student a knowledge of the mechanism and operation of the machine and the manner of arrangement or spacing in the preparation of papers.

A list compiled from various publications summarizes these aims as follows:

1. Operation of the typewriter by the touch method;
2. Arrangement of simple articles neatly and correctly;
3. Arrangement of a letter properly, using appropriate short, medium, or long form;
4. Use of indent, block, and semi-block letter form;
5. Addressing of envelopes;
6. Passing of the "Mechanical and Keyboard Test";
7. Increasing rate and sustaining accuracy;
8. Use of carbon paper;
9. Arrangement of manuscripts, themes, and cover designs;
10. Copying form of rough drafts;
11. Writing of telegrams and cablegrams;
12. Tabulation;
13. Making of bills, statements, legal documents;
14. Taking of dictation at the typewriter.

It does not seem necessary to list required equipment for the typewriting course. Such lists may be found in all standard typewriting texts. This applies too to teaching materials which, besides the text, generally include articles published by the typewriting companies and other printed matter related to the course.

The purposes and aims of the Typewriting course have been already stated. The desired results are skill and mastery. As the subject is one developed automatically, the Drill technique necessarily must be the teaching method used to acquire "habit formation and skill."

Typing power must be achieved. Although the burden of proof rests with the student, this does not lessen the importance of the teacher's work. The letter must understand the importance of the right attitude as well as the skill to be developed.

For the large groups in the typing divisions the class method of instruction must, of necessity, be adopted. The student must learn to do by doing; for this reason it is essential that the first lesson permit actual use of the typewriter. It is only natural that the student should be anxious to do so and that anxiety usually makes the learning of typing enjoyable.

In the teaching of typing there should come first the teacher's demonstration, followed by student exper-

imentation. For practical purposes the intial demonstration should be on machine parts, especially those parts having to do with the feeding and adjustment of the paper in the machine.

Since "touch" typing has become almost universally the accepted method of teaching, the home-key positions should be learned the first day. Through experience, skilled typists have learned that it is advisable to watch the placing of the fingers in key position. Teachers should recognize this fact, as it eliminates needless errors made through stringent following of the "touch" method.

The teacher should insist on a clean cut and swift typing stroke. The "swift" here does not imply speed, for that comes with practice; but the movement of the fingers on and off the key. This should be illustrated by the teacher and executed by the class until they realize that they will achieve skill only through correct performance.

PERIODS Administrators and typewriting teachers questioning the amount of time given to typing instructions have made investigations to determine the value of the single and of the double period. They have found that the double period did not give results commensurate with the amount of time devoted to it and were of the

opinion that intensive teaching methods in single period classes would result not only in better typing but in saving of time.

UNIT ASSIGNMENT It might be well to introduce a paragraph taken from the preface of "Gregg Typing, Techniques and Projects" by Sorrell & Smith:

> "Typing is a skill subject; correct, rapid reaching, and stroking are basic in the development of typing skill.
>
> "Skill development, therefore, is a keynote in 'Gregg Typing'. Every feature of machine operation is built around this idea, by laying a thorough foundation by skillfully worked out practice exercises, based on analysis and experiment.
>
> "Motivation is an undeniably important factor in learning any skill subject, and in 'Gregg Typing' this principle is prominent from the beginning.
>
> "The text is divided into budgets (units) each representing five lessons, each lesson furnishing enough work for a period of from 40 to 60 minutes. Each budget (unit) follows a definite cycle of learning practice."

This is an indication that Typewriting is readily developed into definite units. All recently published texts adhere to this same idea.

INCENTIVES AND DEVICES A need for the knowledge and use of typewriting should be the teacher's introductory talk to the class. It would not be amiss to mention the number of positions, ranging from mailing clerk to private secretary, in which typing skill is a requisite. The salary received by the different ranks of typists always has a strong appeal, as the majority of the students are anxious to commence earning.

As the course proceeds the teacher can stress the importance of being a skilled typist. This will instill in the student's mind the need for the formation of the correct habit.

In learning the parts of the machine the student might first be permitted to tinker with them, while the teacher explains their use. This fixes the parts in the student's mind much more quickly than would the method of the teacher's operating his machine while the class watched.

It is not pertinent that the students remember exactly the designated term for all machine parts. Most likely after he has left school, he will term them "gadgets" or whatever may be the current applicable slang. The paramount thing is to get him to operate the parts correctly so that there will be no lost motion. Speed and accuracy must be acquired. Correct manipulation of parts are indispensable to typing skill.

To prevent the monotony which follows repetition the class drill should be given with snap and zest. In striving for improvement the student experiences zeal and satisfaction when he succeeds. To keep him striving the use of progress cards, prepared by him, is a valuable motivation device. These progress cards are sometimes supplied with the text or by the typewriter companies; or they may be prepared on ordinary graph paper by the student.

ACCOMPLISHMENT Accomplishment in the Typewriting course is guaged by the speed attained. It is based on eight speed standards of fifteen, thirty, forty, forty-five, fifty, fifty-five, sixty, and sixty-five words a minute. When a pupil attains a speed of fifteen words, he is given a quarter point credit; when he attains thirty words, another quarter point is granted, and so on.

The speed acquired is determined by the net speed of the writer in five fifteen-minute tests, the marking being governed by the International Contest rules. The credit earned in a semester reveals the student's efforts.(1)

MINOR MOTIVES As the major motive in the Typewriting course is accomplishment, the following minor motives may be used to obtain sustained and vital interest:

(1) Rewritten from an article in "Balance Sheet" for September 1932, "Self Motivation Basis for Typewriting" by Guy Nicholson; page 30

Motive	Appeal to instinct of
Contests and progress charts	Rivalry
Exhibition on bulletin board of best papers	Display
Stunt sentences	Play
Honor Rolls	Emulation
Promotion to next unit by accomplishment	Advancement
Vocational aim	Success

TESTS have a motivating influence upon the students. There are two types of typewriting tests; (1) for speed and accuracy, (2) for knowledge of mechanical parts; including tabulation, centralization, and manipulation.

Material for the typewriting test should have a wide word range, thus affording vocabulary practice.

As the students advance the tests should be increasingly difficult, although a part of each test should be easy enough for all to do with still another part so difficult that few will pass. The time for testing should vary from five to fifteen minutes. At frequent intervals it is well to give longer tests. In the grading of papers, accuracy should be the goal.

Timed tests, graded according to the International Typewriting Contest rules, are generally conceded to be the most reliable method of measuring the student's ability.

It is well for each student to keep his own record on a progress graph, this to show his accuracy and speed. The graph presents an interesting picture and serves as an incentive to greater achievement.

The Blackstone Stenographic Proficiency tests in typewriting have definite forms of achievement. They are useful in measuring progress from time to time and an excellent device for keeping the student informed of his advancement.

In a skill subject, such as typewrting, the need for motivation is not so urgent as in the teaching of a subject which has merely an aesthetic appeal. In the beginning the typewriter is to the pupil what the mechanical toy is to the child. How do you make it go? What is it for? What happens when you touch this? A thousand questions present themselves.

And as the student progesses there is the joy derived from accomplishment, for he can actually perceive that he is progessing when the keys move faster under his fingers, when the errors are fewer.

Still there is need of some motivation, and this becomes apparent when exercise drills grow wearisome. The teacher who knows how to regulate his classwork will not permit the indifference which monotomy begets to fasten itself on his students. He will have his lessons so planned that from the beginning to the end of the term the typewriting period appeals not alone to his students but to him.

A MOTIVATED LESSON

In Drill subjects the need for motivation is not as great as in the content subjects. This is true also of the Problem type subject. Studies leading themselves to these two techniques invariably arouse the student because they have a definite end or goal, which the student can perceive. The learning situations are such as to supply their own motives for achievement.

Too in the case of Drill and Problem subjects there is usually the vocational aspect. A skilled typist commands a higher salary. One with a fundamental knowledge of the various processes in keeping a set of books is fitted for advancement when such opportunity presents itself; say from billing clerk to ledger work, from ledger to journal, and so on. Where the vocational aspect is dominant it is an impelling stimulant to achievement.

Of course, as we have seen in this chapter, Drill subjects do require motivation, but a type that differs from the Appreciation type study. A subject that is "drilled" is apt to become deadly monotonous under the same presentation over and over. A variation in the material, time limits, an opportunity to note individual progress, and a realization of mastery for its greater vocational value will relieve the monotony and motivate the subject.

On the following pages are given three charts giving percentages or scores of a typewriting class in which the work had been motivated. On the first chart the students are listed according to their "intelligence quotient." The second chart is compiled according to "speed" with the intelligence quotient given for comparative purposes; while the third chart is based on the score of accuracy with the intelligence quotient listed for comparison. The comparisons reveal interesting information.

CORRELATING "INTELLIGENCE QUOTIENT" WITH TYPING ABILITY:

LIST ARRANGED ACCORDING TO "INTELLIGENCE QUOTIENT"

Number	I.Q.	Accuracy	Speed
1	115	60-70-0-90-50-90-70	15 - 23 - 22
2	108	90-70-50-90-90-90-100	19 - 21 - 21
3	108	100-90-100-100-90-100-90	15 - 23 - 15
4	108	90-80-60-60-80-50-80	10 - 12 - 14
5	105	0-70-30-60-90-90-80	12 - 15 - 21
6	105	100-90-90-80-80-70-80	9 - 22 - 26
7	103	90-90-70-70-85-90-50	18 - 16 - 14
8	102	60-20-60-80-60-50-80	16 - 17 - 24
9	100	90-80-80-80-70-70-60	13 - 12 - 13
10	98	70-80-70-90-50-90-60	17 - 14 - 15
11	98	80-30-60-100-60-60-70	12 - 23 - 32
12#	98	90-80-80-90-100-100-90	22 - 30 - 31
13	98	80-70-70-60-60-70-50	9 - 14 - 17
14	96	100-90-100-100-90-90-90	12 - 16 - 19
15	96	80-0-70-100-70-70-60	20 - 21 - 23
16	95	80-40-80-0-40-0-50	9 - 10 - 12
17	95	60-50-90-60-70-50-60	13 - 15 - 17
18	95	90-90-0-90-90-80-30	14 - 22 - 15
19	95	40-50-60-70-70-60-60	6 - 9 - 10
20#	93	100-90-90-100-80-90-100	35 - 41 - 40
21	93	40-50-60-70-70-60-60	6 - 5 - 7
22	92	80-80-90-80-70-80-90	17 - 20 - 21
23	92	50-30-90-80-70-50-70	17 - 11 - 19
24	90	100-80-100-90-90-90	17 - 19 - 19
25#	90	80-70-80-90-70-60-40	10 - 13 - 16
26	88	90-50-70-90-60-80-50	14 - 18 - 15
27	86	70-0-90-70-80-50-60	7 - 10 - 15
28	86	90-80-80-70-80-80-90	13 - 21 - 23
29	85	100-90-80-100-100-100-80	29 - 29 - 29
30	81	90-80-100-100-90-70-70	25 - 28 - 32

On the accuracy tests ten percent is deducted for each error The speed tests are of five minute duration with ten words deducted for each error in accordance with the International Contest rules. The figures listed represent the number of words typed a minute.

#Represents those students who are repeating the course.

COMPARING SPEED WITH "I. Q." RANK

Speed	I.Q.	I.Q. Rank
# 40	93	20
32	81	30
32	98	11
# 31	98	12
29	85	29
26	105	6
24	102	8
23	96	15
23	86	28
22	115	1
21	108	2
21	105	5
21	92	22
19	96	14
19	92	23
# 19	90	24
18	95	18
17	98	13
17	95	17
16	90	25
15	108	3
15	98	10
15	88	26
14	108	4
14	103	7
13	100	9
12	95	16
10	95	19
7	93	21

COMPARING ACCURACY WITH "I.Q." RANK

Accuracy	I.Q.	I.Q. Rank
#100	93	20
90	108	2
90	108	3
# 90	98	12
90	96	14
90	92	22
# 90	90	24
90	86	28
90	81	30
80	108	4
80	105	5
80	105	6
80	102	8
80	85	29
70	98	11
90	92	23
60	100	9
60	98	10
60	96	15
60	95	17
60	95	19
60	93	21
60	86	27
50	103	7
50	98	13
50	95	16
50	88	26
40	90	25
30	95	18

# Represents those who are repeating the course.

In compiling the figures on the "Speed" chart the last speed attained by the student in speed tests is indicated.

In comparing the student's accuracy with his intelligence Quotient rank the last test was taken as a fair indication, considering the type of material and the length of the course. Ten percent was deducted for each error and the copy work covered a period of five minutes.

These charts seem to corroborate the fact that the more intelligent students have not always the highest rank in Drill subjects; but, on the other hand as has been previously stated, the ability of the student averages practically the same. An example of the former may be had on the "Speed" chart, students ranking fourth, seventh, and ninth on the "intelligence quotient" basis, drop to twenty-fifth, twenty-sixth, and twenty seventh on their typing speed placement. Yet referring to the "Accuracy" chart it is found that the students ranking second and third on the Intelligence Quotient list rank second and third on this basis of scoring. Drill subjects are more apt to present phenomenal evidence than are studies developed either under the Problem or Appreciation technique.

It might be well here to admit that the teacher of the Drill or Problem subject cannot today stress the vocational value of such courses. Present world conditions demand rather the suppression of vocational aspects, since positions are so difficult to secure. This fact makes the need for motivation in these subjects even more important, for it eliminates the most important "need" for achievement.

CHAPTER V.

PROBLEM TECHNIQUE

METHODS AND MOTIVES

In a problem type study the all-important task of the teacher is to present the subject matter in such a way that the students actually acquire it. There may be habits to be established, feelings and emotions to be imparted, and judgments to be arrived at. Almost every subject lends itself to some special technique for its presentation and the subject is more effectively acquired if the special form adapted to the particular subject is employed.

A problem study belongs to that group to which it is necessary to make application of principles to known facts to aid in recalling and associating principles until the conclusion or solution of the problem results. This requires thinking, reasoning and judgment.

In school and social life much time is devoted to the solving of problems. When a difficulty is encountered or a decision required and instinct, imitation, and memory fail, there is a problem to solve. Information is needed for the solution. Thinking aids in recalling the information.

The student may be taught to use his thinking and reasoning powers through the assistance of the teacher in

defining the problem specifically so that the student will have it clearly in mind at the outset. As the lesson continues the problem should be recalled so that it is kept clearly in mind.

A thorough analysis, calling for suggestions and general principles applicable to it, should be made. The greater the class knowledge the greater will be the number of suggestions offered. Also, if the problem is divided into smaller parts and each part separately analyzed, more ideas will result.

It is necessary to the development of the problem to give exact definitions for all technical terms.

Each suggestion should be critically evaluated as to its consequences and those not applicable rejected. The accepted suggestions should be held tentatively while further ways of coming to a conclusion are sought. Under this plan the student obtains definite training in estimating the value of evidence and implications in problem-solving. The main thought should be carefully guided and progress noted until the complete solution is found.(1)

PROBLEM TECHNIQUE IN TEACHING BOOKKEEPING

Bookkeeping is a subject which lends itself readily

(1) Rewritten from "Methods of Teaching in High Schools" Parker, Samuel Chester; page 169

to problem technique. There is a definite goal to be achieved, reached through a sequence of logical steps. Each process must be thoroughly understood before the next can be learned; that is the student who does not know how to make entries cannot run off a trial balance.

Because the student has something definite on which to work the teaching of Bookkeeping is simpler than are purely academic courses. W. Virgil Cheek of the Southwest State Teachers college of Springfield, Missouri says, "I like to think of Bookkeeping as a statistical investigation or a piece of research carried on for the purpose of bringing information to the proprietor which will enable him to conduct his business more advantageously in the future. In other words, bookkeeping is the steering gear by which the business is guided."(1)

Bookkeeping gives the student the feeling of handling money which must be counted and accounted for with absolute precision. The subject is the systematic planning and recording of a course of action; and education is the systematic training of the moral and intellectual capacities.

AIMS Although perhaps less than twenty percent of the students taking the Bookkeeping course become engaged in that field, the course is nevertheless vocational. The student is taught how to keep a set of books; not that it

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(1) Cheek, W. Virgil, "Objectives of Bookkeeping" The Balance Sheet April 1933; page 354

is assumed that even those who do become bookkeepers will have immediate use of such knowledge, but that they may be educated for future advancement.

Besides the vocational aim and equally as important is the development of a number of qualities of character. Neatness is perhaps the primary characteristic. There are too the acquirement of a sense of order and system, the formation of the habit of concentration and thoroughness.

The specific purpose of the course is the teaching of business habits and problems, for the complex structure of the business world today requires a knowledge, at least general, of business principles.

It may be interesting to note the disciplinary phases which it is claimed are an inseparable part of the course:

Intellectual Training

Observation
- The checking of sales confirmation
- The filling of material requisitions, in supplying the actual lots and sizes called for,
- The observance of special terms, dating and shipping instructions,
- The preparation of price lists.

Imagination
- In converting foreign currency, what a drudge it may become if one does not think of some little detail about the countries that use ruples and annas, francs and centimes, pounds, and shillings;
- In forming mental pictures of manufacturing operations from manufacturing statements,
- In forming a mental picture of business condi-

tions from the balance sheet.

Reasoning

Adjustment entries
Closing entries

Judgment
The proper estimation of reserves
The ability to draw sales, shipping forms, and so on
The determination of an asset or expense account.

Aesthetic Training

Well written papers and books
Precision, neatness, and orderliness.

Training the Will

The constant debiting and crediting of certain items no longer requires reasoning, it becomes a habit.(1)

PLACE IN CURRICULUM

Bookkeeping correlates well with other subjects given in the Commercial Course. In many schools it is the foundation around which the entire Commercial Course is prepared. It is recommended that the beginning course be given in the tenth grade.

APPLICATION OF PROBLEM TECHNIQUE Bookkeeping belongs to that group of subjects to which it is necessary to apply principles to given facts and to recall and associate these principles until the conclusion or solution of the problem is reached. The development of the problem commences with one's previous knowledge applied to known facts.

(1) Rewritten from Kahn & Klein, "Principles of Commercial Education"

Systematization of the facts brings about principles which are applicable in the interpretation of new facts which ultimately provide a solution of the difficulty.

Before proceeding with the development of the Problem technique, let us consider briefly the mental processes of the pupil in a course presented under this technique. As previously stated all learning depends upon the modifiability of the neurones. In a reflective or thought lesson the resistance of the neurones to respond to the stimulus is great. As thinking or reflection is the highest type of learning it is also the most difficult. In our drill lesson the situation or stimulus was repeated until the response became automatic. The combination of letters "frf" as the stimulus was repeated so often that when the student writes the word "run" he automatically stretches the first finger of the left hand above the letter "f" to strike the letter "r". When automatic response does not produce the correct reaction, and when memory fails there is a problem which the student must solve by thinking. Thinking, we noted, disturbed the neurones, was resisted by them. The student must associate and connect all the known patterns upon the neurones with this new stimulus until he can select the response that will solve the problem. This selection should be directed to prevent the random movements associated with the "trial and error" method.

The purpose in problem-solving is to arrive at a

Correct solution. This requires thinking, reasoning, judgment, thus removing the study from the drill lesson type where an automatic response is required. In the thought development certain logical steps must be made in order to secure the answer to the problem. These steps may be enumerated as:

1. The recognition of a difficulty
2. The necessity of overcoming the difficulty
3. The searching and recalling of possible suggestions
4. The association of the principles to the problem
5. The application of the suitable principles
6. The verification for proof of the solution.

In subjects which lend themselves to acquisition and mastery through the use of problems, the problems often provide the stimulus and motive for the securing of an understanding of the principles. Such a procedure removes the weary grind of repetition and mechanical memorizing.

When preparing a plan for a problem-solving lesson the instructor should keep in mind as a guide to a logical conclusion:

Preparation Presentation Comparison
Generalization Application
Verification

"These different steps have taken their form as the result of a careful analysis of the way in which students learn general ideas."(1)

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(1) Holley, Charles Elmer "The Teacher's Technique"; page 119

When the appropriate lesson is conducted in this way and when the students give serious and connected thought to the subject, the conclusion will be correctly determined.

In lesson preparation the teacher should provide a background relating to the student's previous knowledge, proceeding until a difficulty to further progress is apparent. Most likely the need of a definition will here arise. This should be so worded as to be intelligible to the slow thinkers, in order that the thought process may not retard the learning of the necessary factual knowledge.

The study of Bookkeeping almost provides its own motivation. When the student has finished the course, he expects to know how to keep a set of books. There is nothing vague about the goal to be attained as is true of subjects developed under appreciation. The vocational aspect of the course too inclines to motivate it. Under normal business conditions, the student may expect to find the specific job which he seeks. As the majority of students are anxious to earn a salary, this motive impels them to good work.

These two motives are after all secondary. The principal element is in the task itself, and Bookkeeping gives the student a feeling of dealing in realities. The adoption of firm names, the handling of paper money, the dealing in commodities are all things with which the student is somewhat familiar and with which he is zealous to become more familiar.

While of course there must be some motivation in order to stimulate the student to persist in discovering ways and means for the solution of the problem, the need is negligible when compared with other subjects.

In a problem type of lesson the desired response is exact reasoning, the recalling of known facts, associating them with the fact that calls for solution, applying the principle of the known facts to those unknown; that is reasoning through to a logical conclusion.

To aid the student in his learning and to urge him to attain a solution the teacher must provide a motivating condition. This motivation is an inner force which keeps the student persistently attempting to discover ways and means of reaching the conclusion. The learning situation and the motivation provide the stimulus enabling him to pursue his lesson until the goal is reached.

In motivating lessons the teacher must keep in mind those appeals which create interest. In a problem unit the instincts usually aroused are; advancement, prestige, achievement, ambition, success, competition, rank rivalry, and mastery.

It would seem well here to introduce a planned lesson for the Bookkeeping course.

BOOKKEEPING UNIT ADJUSTING ENTRIES

The Problem - Prepare for Mr. John Smith a true statement of financial condition, a Balance Sheet, as of January 31, 1934.

The Motive -- Work on the school bank ledgers

Material for
the Student - Mr. Smith's ledger with posting completed to the end of the fiscal period. The ledger does not state the correct value of all of his accounts. Therefore he cannot prepare a Balance Sheet stating truthfully what he owns, owes, and is worth. He asks you to adjust his accounts for him.

CASH		ACCOUNTS RECEIVABLE		MERCHANDISE INVENTORY	
3211.00		2517.00		3934.00	

DELIVERY EQUIPMENT		OFFICE EQUIPMENT		ACCOUNTS PAYABLE	
1800.00		552.00			2367.00

NOTES PAYABLE		PROFIT & LOSS		JOHN SMITH-CAPITAL	
	1000.00		1147.00		7500.00

DEPRECIATION DELIVERY EQUIPMENT		DEPRECIATION OFFICE EQUIPMENT	

Upon investigation the only accounts that appear incorrect are the Delivery Equipment, which is worth only $1,500. and the Office Equipment $500.

Preparation

A pretest covering a short review of functions of accounts and the normal balance of accounts might be given, such as the following:

1. The left side of the account is called the balance of the account T F

2. Items on the left side of the account are credits T F

3. Increase in value of assets are shown as debits T F

4. To increase an asset....... the account of that asset.

5. To decrease an asset....... the account of that asset.

6. Accounts representing losses have......balances.

7. When Office Equipment is decreased a record is made on............side of the account

8. Decreases in Delivery Equipment are recorded on ....side.

9. Losses are transferred to ....account

10. Record an increase in net worth on ....side of Capital Account.

This short quiz will reveal the student's knowledge of accounts and it might be followed by a discussion of the family car;

Cost three years ago

Present value

How determined

Why less at this time

Name for decline in value

This will associate the principle of Depreciation with something with which the student is familiar. It might be advisable to stress at this time that the students who do the ledger work correctly will have an opportunity to work on the school bank ledgers.

Presentation

The amount Mr. Smith owns and owes and is worth is taken from the ledger accounts. Mr. Smith's ledger account Delivery Equipment $1,800., actual value $1,500.; Office Equipment in ledger $552., actual value $500.

How is present value determined?

Why less at this time?

Name for the decline in value

On what statement are assets listed?

The value at what date

Definition of Depreciation

Statement of the problem

How make the ledger account show the true value in order to prepare a Balance Sheet showing a truthful financial record?

Comparison

Various answers and suggestions from the students are considered. The teacher should prompt the class through such directive questions as:

What is the difference between $1800. and $1500.?

Why is the value at this time less?

What is the name given to the decrease in value of an asset?

Losses should have what balance?

How decrease an asset?

On what side of Asset accounts are decreases written?

Generalization

With the purpose of the process in mind the teacher leads the student to the entry that will show the loss due to depreciation and the decrease in the asset account. Through questioning the teacher leads the student to decide upon the following journal entry:

Depreciation Delivery Equipment	300.00	
Delivery Equipment		300.00

The same procedure should be followed to show on the ledger the correct amount of Office Equipment:

Depreciation Office Equipment	52.00	
Office Equipment		52.00

Application

The student should then post these journal entries to the proper ledger accounts and notice the effect of the entry on the account.

DELIVERY EQUIPMENT	
1800.00	300.00

OFFICE EQUIPMENT	
552.00	52.00

DEPRECIATION DELIVERY EQUIPMENT	
300.00	

DEPRECIATION OFFICE EQUIPMENT	
52.00	

A correct Balance Sheet may now be taken because all accounts are stated at their true value.

Verification

Selecting from the ledger the accounts which show items owned by Mr. Smith as:

Own (Assets)		
Cash	$3,211.00	
Accounts Receivable	2,517.00	
Merchandise Inventory	3,934.00	
Delivery Equipment	1,500.00	
Office Equipment	500.00	$11,662.00

Next the items owed by Mr. Smith should be selected and subtracted from the owned (Asset) accounts:

Owe (Liabilities)		
Accounts Payable	$2,367.00	
Notes Payable	1,000.00	$3,367.00
Mr. Smith's Net Worth (Capital)		$ 8,295.00

When this preliminary work is complete and the problem of ascertaining a true Balance Sheet is solved, a statement with proper heading and arrangement should be prepared for Mr. Smith's use.

In order that the students may have facility in the nature and use of adjustment entries the teacher should give additional opportunity for applying this knowledge by practice in a series of adjustment entry matches, relays, bees, races, and so on, for at this point there will be a slowing up of the learning process through the introduction of a new stimuli for which a correct response must be found. This period, as we have already seen, is what is known as a "Plateau." After the habit of adjusting entries has been formed, there will be perhaps a sharp upward swing of the learning curve, for new stimuli is invariably followed by a period of rapid improvement. Oral tests and class discus-

sion should fix these few simple principles in the student's mind and provide practice in the new work. It will also insure a knowledge of the fundamental principles studied up to this point.

This sort of practice work should be the initial step for other adjusting entries; such as income that has not been received, assets that have not been used, salaries that have not been paid, and others.

Other attempts at motivation may be in the manner of play or relaxation. In the chapter on "Learning" we said that spontaneous attention was given to play. The Bookkeeping course with its multiplicity of problems and rules to be "fixed" grows wearisome to the pupil through the application of effort. Such devices as the adjusting entry bee and the adjusting entry relay afford relaxation, yet at the same time improve habits more indelibly.

The adjusting entry bee is conducted similarly to the old-fashioned spelling bee and usually entices the students' fancy.

Two students are appointed by the teacher as the leaders who alternately choose their classmates to form sides or teams. The teams line themselves on either side of the room. When the teams have been selected, the teacher gives the information for the adjusting entry from which the leader proceeds to give the date, debit account

and amount, credit account and amount, and explanation. If he should fail, he takes his seat and the leader on the opposite side attempts it.

Each student who fails returns to his seat. When the correct answer is given, the teacher gives the information for the next entry. The side having the most students standing when the time is up naturally is the winner. If time permits, the bee may be continued until the individual winner is determined.

Another way of dispelling monotony may be found in the adjusting entry relay. Each row becomes a team. The problems to be adjusted are written on the board or on papers given to each student. All start at the signal to make the entries. When a student finishes, the teacher records his time. The average time spent and the accuracy are determined for each row. For two or three days a part of each class period may be taken for the relay. A chart should be kept to record the results. The reward to the winning row might be exemption from a test; or the low scoring row might be required to give an entertainment the next rainy day.

Adjustments will be more easily understood and greater interest aroused if the incidents are related to the student's experiences. Devices used for practice in the application of adjustment entry principles may appeal to the competitive spirit and the desire of students to

be ahead of one another. These will break the monotony of class recitation and may be used after two or three days of instruction in new work.

The resourceful teacher will make plans to motivate adjusting entries and other bookkeeping lessons through the following methods:

MOTIVE	APPEAL TO INSTINCT OF
Exhibition on bulletin board of the best papers	Display
Stunt questions	Play
Honor Rolls	Emulation
Promotion to next unit by accomplishment	Advancement
Vocational Aim	Success
Visit to Business Office	Achievement
Moving Pictures of business operations	Curiosity
School Bank	Advancement
Real business papers and forms	Prestige
Cross word puzzles	Mastery
"Bees"	Competition
Praise good work	Commendation
Dramatize business organization	Play
Commercial Clubs	Sociability

TESTS After acquisition of the rules of the lesson from the general facts, the student must have ability to apply the principles. Practice in the application of the rule fixes it upon the mind of the student, permits

him to use his judgment in the application of principles to new facts.

Testing the student at given intervals enables the teacher to ascertain what the student knows, how he applies his knowledge, and also gives a basis of credit for the work. The teacher too will be able to tell how well the subject "got across", for the test of the student is also the test of the teacher.

The traditional essay type of test with the questions beginning; "Determine," "Discuss," "Describe," "Why," is being replaced by the newer type of objective test. The term "objective" is designated because the opinion of the examiner is not recognized in the correctness of the answers. These tests may be informal, prepared by the teacher, or provided by the publishing company of the text used.

The new-type test may be a combination of questions from which the student selects the true statements from a group in which the key word or phrase is missing. The student is required to supply the correct word to make a complete statement. An illustration of this type of test will be found on page 83.

Another form of new-type test is the "matching Test" in which the student is asked to check similar words or phrases.

This new-type test is freely adaptable to examina-

tions in Bookkeeping. It covers more material, tests more of the subject matter, is valid, reliable, and easy to score. In Bookkeeping, problem tests have long been used. When each solution was graded one hundred percent (100%) or zero percent (0%), the test was objective. If the test were a long problem, this grading was very unjust. To avoid this unfairness, series of short problems are given and from these averages computed.

In the new-type problem tests the regular Bookkeeping procedure is reviewed, although in many much of the figuring is omitted. For example, if a student were given a trial balance and asked to prepare adjusting entries, a balance sheet, and profit and loss statement, the test paper would be so arranged that the student would indicate by check marks instead of figures where the figures should be inserted. Until the student has a knowledge of where the different accounts should appear, the correct figures would not solve the problem.

The most important of the mental operations are measured by the new-type test. "In measuring ability to make the proper adjusting entries the testing is reduced to the most important part, the selection of the accounts to be debited and credited."(1)

The advantages of the new-type test are:

(1) Carlson, Paul A. "The Measurement of Business Education; page 17

1. "It is computed in less time;
2. There is no 'carry over' in effect of errors;
3. It is easily scored;
4. It is quickly scored;
5. It may be given as often as desirable.
6. it tests more material in a short time."(1)

Here is illustrated a sample test on adjusting entries.

"Directions: Indicate the accounts to be debited and the accounts to be credited in making the adjusting entries for the data given below by writing the numbers of these accounts in the appropriate columns. Select the numbers from the 'List of Accounts' given at the left of the 'Data.' The first entry, '0', is given as a sample.

List of Accounts	Data	Dr.	Cr
1 Advertising 2 Cash 3 Expired Insurance on Merchandise	0 Transfer the beginning merchandise inventory to purchases account	16	4
	1 Adjust the ending merchandise inventory	....	
4 Merchandise Inventory	2 Record expense for store supplies	....	
5 Office Supplies 6 Office Supplies Used	3 Record expense for expired insurance on merchandise	....	
	4 Record expense for rent	....	
7 Delivery Equipment	5 Adjust depreciation for delivery equipment	....	
8 Depreciation Del Equip	6 Record expense for office supplies	....	
9 Office Equipment	7 Adjust depreciation office equipment	....	
	8 Adjust advertising material inventory	....	

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(1) Carlson, Paul A. "The Measurement of Business Education; page 17

10 Depreciation Off Equip.	9 Adjust building account	....
11 Prepaid Rent	10 Adjust salaries accrued	....
12 Rent Expense		
13 Salaries of Sales Clerks		
14 Store Supplies		
15 Store Supplies Used		
16 Purchases		
17 Advertising Material on Hand		
18 Building		
19 Dep Building		
20 Accrued Salaries		

(1)

When the Elementary Bookkeeping course is made general and informational and the greatest possible number of business operations considered, the students who remain in school obtain valuable vocational and educational guidance in the field of business, while those who are compelled to leave have acquired a rudimentary knowledge of business procedure.

To make the course real and vital to the students and to have them comprehend actual business situations it is essential that they be provided with practical material. When they are studying banking, copies of actual business forms, signature cards, deposit slips, and checks should be obtained from banks or business houses.

This method of procedure should be applied to all the enterprises covered, for when the student sees and uses actual business forms, it furnishes a more definite understanding of business activity.

(1) Rewritten from McKinsey's Booking and Accounting Test Number 2, Series F

In the Advanced Bookkeeping course the tendency is toward the vocational aspect. The students are expected to acquire ability to classify and record business transactions; prepare and interpret financial statements; develop judgment, reason, and analytical power.

In preparing a motivated problem unit the teacher should:

1. Select a definite problem;
2. Keep it within the students' capacities
3. Prepare a plan of instruction:
    (a) Preparation with sufficient background material
    (b) Leading to point of difficulty;
    (c) Recognition of need to overcome difficulty,
    (d) Presentation, definite statement of the problem,
    (e) Comparison, the searching and recalling of possible suggestions
    (f) Generalization, association of the principles to problem.
    (g) Application of the suitable principles
    (h) Verification for proof of the solution,
    (i) Practice and review to establish facility in applying knowledge to various problems;
4. Know the native instincts or tendencies of his students in order to decide which instinct or tendency may be appropriately appealed to so the desired result may be obtained;
5. Obtain a knowledge of his students; their characteristics, interests, and wishes;
6. Determine a motive, interest, or incentive suitable to the subject which will arouse the desired instinct;

7. Practice lessons to facilitate the student in application of the principles;
8. Tests for the discovering of the students' abilities and achievements.

CHAPTER VI.

APPRECIATION TECHNIQUE

CLASS METHODS AND MOTIVATION

Appreciation may be divided into classes or types as; of the beautiful, of human nature, of the humorous, of the intellect.

Appreciation of the beautiful is an aesthetic emotion. The stimulus is a sense perception; to the eye or through the ear. Art, literature, music have aesthetic appeal.

To appreciate human nature it is necessary to be socially inclined, to have a sympathetic understanding of one's fellow men. Almost every man is to some degree a student of human nature; he is at least interested in his immediate family, its struggles and triumphs, its sorrows and joys. And as his concern broadens it involves the aspirations, ideals, and characteristics, inherent and acquired, not only of his contemporaries but of men of the past.

A sense of humor is a God-given gift. It establishes a sense of balance in a man. There are various kinds of humor, ranging from pure fun through wit and satire, to the decadence of vileness. But humor in its broadest sense is a characteristic that could be cultivated to advantage to a much greater extent.

Men of keen intellect invariably lead full lives because their capacities for enjoyment are so limitless. To them a book is more than its written pages, a painting more than its canvas and subject. Literature, art, science afford reflection to the intellectual man.

Ralph Waldo Emerson says intellect, "It (intellect) separates the fact considered from you, from all local and personal reference......Intellect is void of affection.....The intellect pierces the form, overleaps the wall, detects intrinsic likeness between remote things, and reduces all things into a few principles."

COMMERCIAL GEOGRAPHY is a subject that can be learned only through the application of appreciation technique. It is in fact a study of one aspect of human nature how man gets a living.

It is a social study. In it an endeavor is made to enlighten the student on the elements of civilization through inculcating a sense of interdependence, a respect for democracy, the vital use of reasoning power, and the need for moral principles. (1)

In geography the students acquire these elements through their study of the influences affecting man's

(1) Rewritten from "Teaching the Social Studies" by Edgar Dawson

environment, through an understanding of the difference among peoples and groups, and through a realization of the interdependence of the peoples of the world.

Edgar Dawson lists as the advantages of the definite method of procedure in the study of an appreciation subject:

1. The student learns how to work;
2. He collects information;
3. He records it;
4. He analyzes his record;
5. He draws inferences from it;
6. He studies these inferences;
7. He projects possible improvements;
8. He makes generalizations looking to progress.(1)

Acquisition and mastery of subject matter in an appreciation study differ greatly from acquisition and mastery of a drill subject. In the latter repetition is the keynote. In an appreciation study the student may be said to have attained mastery when he inclines favorably to appreciative values. The degree of appreciation depends upon the students, (individually and collectively) the teacher, the subject, and the teaching procedure.

Lessons should be presented in such a way that the students will absorb information and utilize it in furthering and cultivating correct social attitudes and ideals.

(1) Rewritten from "Teaching the Social Studies" by Edgar Dawson

Care must be taken to arouse the proper attitudes, since an appreciation type subject is one dealing largely with emotions.

In an appreciation study there is a marked need of a definite method of procedure. Attention is gained only through arousing instincts which under mere text-book treatment would lie dormant, such as the student's curiosity, sympathy, sociability. Planned work or procedure usually develops in the student a desire to work through interest rather than force. He becomes anxious to know more, to collect outside data, to make reports from which inferences can be drawn, In short, the subject becomes something real to him and one in which he wants to progress.

In the course on Commercial Geography the student obtains a broad view of the world in its relation to man as a producer and trader. The main factors in the present development of commerce and industry are improved transportation, the application of steam power to many forms of machinery, progress in chemical science, and the governing of the great routes of international trade.

In this commercial view the student has brought to his attention the world's resources, the commodities, nations export and those they import, and the relative commercial standing of the world's nations. In short, he becomes acquainted with the living conditions, the commercial

enterprises, and the trade relations of the nations of the world.

PLACE IN THE CURRICULUM It has been recommended that the Commercial Geography course be given not below the tenth grade. It may be completed cursorily in one semester; or, if two semesters are permitted, extensive details, projects, and field trips greatly enrich the study. In some high schools two half-year courses are given. The first half covers the United States geography and the second that of other important commercial countries of the world.

AIMS EDUCATIONAL# "As the secondary schools form the educational stepping-stone to everyday life, the imparting of a working knowledge of the Commercial World becomes a major objective of secondary school geography."(1)

Commercial Geography imparts to the student an appreciation of life through:

1. Giving him an understanding of the industries of his own community and a knowledge of their industrial processes.
2. Interpreting for him the complexities of world progress and the influence of production and utilization of the principal commidities of commerce.

#Kahn & Klein in "Principles and Methods of Commercial Education" consider the course in Commercial Geography, when properly taught, the most cultural course in the curriculum.

(1) Colby & Foster, "Economic Geography for Secondary Schools", preface

3. Acquainting him with the relations between the United States and the other countries.

VOCATIONAL Although Commercial Geography is a social study, it may aid the student in perceiving the vocational opportunities in commerce and industry.

GENERAL The general aim of Commercial Geography is to give a working knowledge of the commercial world. This is accomplished through a study of the regions engaged in world commerce, of their trade and transportation facilities, and of the uses made of land, resources, and industries by the people of different regions.

The course plans to give the student:

1. An understanding of the earth and its relation to man.
2. A picture of the interdependence of man and how he adjusts himself to various conditions.
3. A comprehension of the relation between industry and commerce and the effect of the topography, climate, and natural resources of the world.

SPECIFIC The specific aims of the course are to give the student:

1. A better understanding of the primary sources of of production, transportation, and communication in industry.
2. A realization of the importance manufacturing has upon the progress of the various countries.
3. An understanding of the working of the law of supply and demand; its effect on prices, the tendency of improving transportation to equalize the two; and the facilitation of the exchange of commodities through money and credit.

4. An acquaintance with the part transportation has had in the development of new countries and in the exchange of products.

5. A better realization of the fact that sound economic principles almost always determine the location of a particular commercial enterprise and its success or failure. (1)

MOTIVATION Does motivation in a social science unit differ from the methods used in a tool subject? How can the teacher know the most effective methods?

As has already been mentioned motivation is the means adopted to obtain vital interest in a subject. It is a scheme, plan, or method of stimulating such interest. It is an appeal which arouses in the student a desire to act willingly, agreeably, and purposely. In other words motivation should be utilized as will create in the student a favorable response, the reaction which the teacher naturally desires.

In an appreciation subject mastery of facts and automatic response, as in a drill type subject, are not desirable or sought. The aspired aim is the instilling in the student a bigger, broader, fuller understanding of the significance of the subject.

(1) These general and specific aims have been compiled from various "Courses of Study"

In geography the appeal is to the social instincts, embracing humanity in its various aspects, although fundamentally Commercial Geography deals with man in relation to his daily occupation. Such study of various peoples should arouse in the student sympathy, loyalty, enjoyment, and approval of his fellow man.

The stimulation of these activities may be brought about through activity on the student's part, such as the assignment of special reports, the making of graphs, and the creation of many projects. Collection of pictures and posters is also an invaluable stimulant.

The special reports may be brief, covering a limited range of material or, on occasion (say once during the semester), of thesis length and formality. These reports tend to create a liking for simple research work. Graphs and map making invariably attract the student and make the earth's surface better known to him. Picture and poster collection develop the power of observation and too tell the story more clearly and impressively than printed words or platform lectures.

It has been indicated that the response the teacher desires in a given subject will reveal the motivation applicable. To create a student liking for a subject is one of the teacher's great ambitions. To have student interest in the work and to develop an enjoyment of it is

much a matter of adapting it to the student's psychological nature.

All students have fundamental tendencies or instincts to which the teacher may appeal, although in a group there will be varying points of view in the appreciation of a given subject. This is only natural, as the basic factors - heredity and environment - differ from student to student.

In teaching, it is advisable to keep in mind the human appeals and situations that will arouse social instincts; companion seeking, sympathy, curiosity, imagery, imitation, loyalty, love of approbation, altruism, observation, and patriotism.

In the preparation of lesson units the teacher should strive to appeal to the largest possible majority of his class. As students are interested when they are doing, creating, and participating in group activity, motives utilizing these facts will naturally increase attention. For this reason the reading of travel publications and newspaper articles and detailed and pictorially study of various industries are all important to progress.

CLASSROOM METHODS

The Commercial Geography course may be presented through various classroom methods, To enumerate:

Laboratory
Problem or Project
Topical
Analytical
Unit
Field Trip Discussion

In the laboratory method maps, pictures, globes, graphs, mineral and raw materials, manufacturers, samples, pamphlets, and reference books are studied in class. From the study the students prepare reports to be read to the class. These reports usually arouse spontaneous attention because of the wide variation in facts observed by the different students. The student also is inspired by the attention of his audience to do his best work.

The project method provides the study of a special phase of the subject selected by the student from a prescribed list. These studies may be developed in class under the guidance of the teacher, with additional homework, or entirely as an outside piece of work. At least one project should be prepared by the student independent of help.

The contract method is a grading device. A list of questions is given to the class. Each student is to secure all the information he can. To obtain a grade of "A" he must answer all questions satisfactorily. If he answers, say, questions numbered one, three, six, eight, and ten, and any two others, he receives a grade of "B"; and so on.

In the topical method a few facts are selected for intensive, thorough study. This detailed study aids in relating material that might otherwise be isolated. This method may be used to advantage in relating personal experiences or travels. It is also a good method to follow in individual study.

The analytical method is used for problems involving the establishment of geographic and economic relationships; for example, how the natural resources of a country affect the economic activity, capital, character of the people, and labor.

The unit method aids the student to obtain a knowledge of the subject by understanding it rather than memorizing it. The plan is to organize the subject into units rather than to follow chapter or page assignments.

Field studies give the student first-hand knowledge of the principles and processes used in various industries. The students should be held responsible for information obtained on the trip through written reports and through oral recitations.

It might be feasible here to outline a lesson unit in the teaching of commercial Geography. "Forest Industries" have a genuine appeal, as the forest provides us with so

many commodities that are a part of daily living. Without forests many of man's present comforts would be denied him. In the list that follows all the topics enumerated make interesting and essential study:

1. Forest regions
2. The importance of wood
3. Countries of production
4. Conditions of growth
5. Kinds of timber
6. Forest Products
7. National forests and deforestation
8. Exports and imports
9. Furniture industry
10. Lumber industry
11. Tanning industry

From this list the teacher selected for initial preparation of the study those topics dealing with the standing timber. In the classroom pictures of virgin forests, cutting and logging operations, forest fires, and deforestation results were displayed.

The teacher then suggested that the students clip from the papers any items relating to forests or timbers. Material sufficient for the compiling of several theses was collected, for at the particular time the lesson was being conducted, forest fires were raging in the southern part of the state in which the school was located.

It happened too that the President had just made known his plan for the recruiting of an army for purposes of reforestation. This army, of course, is known as the Civilian Conservation Corps.

The project have rise to any number of questions. What is its purpose? Why put so many men to work? Why conserve our forests? What good can be accomplished by the spending of so many millions of dollars? Who will benefit?

The answers to these questions provided ample opportunity for every member of the class to learn something of Forest Industries.

In the further development of the subject, had time permitted, a field trip might have been arranged. This particular lesson unit was given in a Boston school and since the tanning industry is common to Boston a trip to a tanning establishment could have been planned.

Field trips are so vitally important that the Commercial Geography teacher should select for detailed development only an industry which will afford such study. Actually seeing a thing done imprints it so much more indelibly in the memory that no method of procedure can compare with it.

After the field trip, one or two lessons may be profitably devoted to class discussion on the whole

industry, a specified part of it, or to the reading of student reports.

HOME ASSIGNMENT DEVICES AND TESTS The best method of checking home work is of course through written quizzes. Quizzes too aid in the organization of the class. For the first few periods, when teacher and students are new to each other, oral recitations are difficult. It is less embarrassing for the student to read what he has written and this class recitation is of great assistance in getting acquainted.

There are a number of types of quizzes. In the essay type the student secures the benefit of analysis and organization of the subject. The questions should be given in logical sequence. The essay-type question permits the teacher to ascertain whether the students are actually learning the fundamentals.

The teacher may frame her own questions or use those provided in the text, usually at the end of each chapter. The essays may be read by the students and those not called for passed in to the teacher for check-up. This method is exceptionally good for the establishment of ease and good-will between the class and the teacher.

The recall type of quiz on home assignments depends upon a one word answer. Care should be taken in the framing of questions so that not more than one word will

be the correct answer. This type of assignment arouses interest similar to that created by cross-word puzzles. A quiz of fifty questions will cover a wide area.

"Beginning from zero" quizzes on home assignments provide a check upon factual asquisition. The teacher may name a subject which the home-work has covered and request the students to list all the facts they can in a given time. The time period should be sufficient so that the slower thinkers will be able to assemble the facts. Through this method the home preparation can be appraised by the relative number of facts given.

These tests are merely supplements for regular teaching methods. In all tests the questions must be clear and definite, adapted to the mental development of the learner, easily understood, and interesting. When preparing tests, the teacher should remember that the primary aim of the Commercial Geography course is not the memorizing of products, processes, great cities of consumption, and location of producing areas; but an understanding of the various ways in which man's activities are influenced by his physical environment.

It is an art to prepare questions creating an appreciative response. Remembering that the technique of appreciation is an appeal to the emotions, the questions must be so framed that they will arouse in the student's mind suggestions, images, and personal associations.

As there are many facts that must be acquired and broad general topics to be covered, the testing should take advantage of both the objective type and the essay-type questions. When the teacher wishes to test a wide range of factual material the new-type or objective test will give the better results. The test may be made up of a number of True-False questions, Completion questions, Multiple-Choice questions, Selection questions, and Matching exercises. From surveys it has been found that standard tests are of doubtful value as teaching material.

To mention just one or two more ways of "putting across" the Commercial Geography lesson, there is first the topical outline which aids in organizing the material in the student's mind. In the beginning the teacher may find it advisable to dictate these outlines, following it up with home assignments. Outline building on the blackboard, the students providing the topic, invariably has a strong appeal.

Another good plan is to have the student supplement his text-book reading with stories and novels in which the setting is of geographic interest. Current problems too are often of such a nature as to provide debatable material or provoke discussion. Students should be encouraged to read papers and magazines for such articles and also to form the habit of discussing these matters at home. The latter

enables the student to express his views more clearly and concisely in the classroom.

Arousing in the student a spirit of appreciation will lead inevitably to the worthwhile, profitable use of leisure time. It will stimulate high ideals, aspirations, and inspirations through intellectual play, the removal of self-interest, and the acquirement of a sympathetic character.

A MOTIVATED LESSON

Subjects that must be motivated under the "Appreciation" technique invariably are the courses in which it is hardest to gain attention, or having gained it to sustain interest. The appeal is an aesthetic one, depending upon emotions not easily aroused in the student; that is so far as consideration of the subject itself is concerned. The average student in the English course cannot comprehend the beauty in the style of Washington Irving or the masterliness in the immortal Gettysburg address of Lincoln. The latter he may learn by rote yet never be aware of the clearness of diction, the conciseness and the pithiness of statement.

There is rarely a vocational aspect to a study presented under the technique of "Appreciation". There may be an obscure one; Choral Practice may be the first step of the embryonic prima donna. The future archaeologist may develop his initial desire from his Ancient History course. But primarily, these subjects with their awsthetic appeal are courses in which the student can see no ultimate need.

For that reason, to prove that motivation does accomplish results, a detailed survey of such a course will be presented in the following pages. Twenty years ago E. L. Thorndike, the noted educator, said of schools that they are mostly training intellect "the thing they can do least" instead of training character "the thing

they could do best." A noted psychologist, whose name at the moment cannot be recalled, has said that man's emotional factors - ambition, interest, sense of his own importance (to name a few) - count for eighty-five percent of his success while intelligence counts for only fifteen.

The reader can perhaps remember his own school days. It may have been the dates in history that were confusing. In geography there may have been troubles with the boundary lines. It is assumed that class work consisted particularly of class recitation and the more nearly the text was committed to rote the more highly pleased was the teacher. What had been learned was probably nothing more than a jumble of words. Occasionally there may have been a test. In history it might have been something like this:

In what year did the Pilgrims land?
On what date?
Who was the first one to land?
Where?

The answers called merely for bare facts.

While history and geography courses, of necessity do call for the acquirement of factual knowledge such as dates, persons, and places, the present aim in the teaching of these studies is to have the student acquire important facts through the association of ideas.

A teacher today might frame a question on the Pilgrims thus:

> "To what conditions did the Pilgrims have to adjust themselves when they landed in........in the year...?

In answering the student would be required to supply the factual information as he related the hardships which confronted the Mayflower band. Hardship is something with which every student is more or less familiar either directly or indirectly. There may be poverty or illness in his own home. His father or an older brother or sister may be out of work. Or it may be that his pal's mother has just died. In this way he associates the sufferings of the Pilgrims with those which he himself has experienced.

Therefore, in the teaching of content subjects an effort is made to instill in the student a liking of it through association with himself, His immediate world, and ultimately the world at large.

As an object lesson in the application of the Appreciation technique, Commercial Geography has been chosen, for, as mentioned in this thesis, the course has the greatest aesthetic appeal of any in the Commercial branch. It truly may be classified as a cultural course, for it gives the student a view of man engaged in his daily occupation, whether that pursuit be agricultural, industrial, or commercial.

There were thirty-three students in this particular class. Among them were represented the brilliant student, the average, and several subnormal, or students who habitually failed in recitations, tests, and written assignments of the simplest nature.

The topic under discussion when the serious attempt at motivation was commenced was "Cotton". The first day of the lesson the teacher listed on the blackboard books on the subject obtainable at the Public Library, the School Library, and the Geography Room Library. Among them were:

"Cotton Manufacturing" - by Christopher P. Books
"The Cotton Kingdom" - by William E. Dodd
"Cotton and the Cotton Market" - by William H. Hubbard
"The Story of Cotton" - by Dorothy Scarborough
"Cotton as a World Power" - by J.A. Brown Scherer
"The Four Wonders" - by Elnora E. Shillig

These books had varied appeal. Some were entertaining as well as instructive, others were entirely informational, while still another few were statistically important. The teacher felt that on the list was one book at least which would attract the indifferent student, the incapable, and the shiftless. The books were merely recommended as additional sources of information.

The lesson plan covered six periods. A period is forty minutes. Here is the teacher's lesson plan:

Monday - Outline

Wednesday - General discussion and oral recitations

Friday - Ten minute quiz on home assignment, essay type quiz. Presentation of debate proposition, suggesting to students selection of topic and asking for volunteers.

Monday - Ten minute quiz, one-word answer type, twenty questions, Student correction of papers. Balance of period spent in general discussion of the subject and also touching on the reports which the students had been told before the lesson commenced would be called for when the lesson was completed.

Wednesday - General quiz and the reading of a few of the reports.

Friday - Debate on the Saint Lawrence Waterways, the topic suggested by the class.

As the lesson covered six periods the teacher divided her topical outline into six main headings as follows:

I History of Cotton
II Climatic Requirements
III Raw Material
IV Manufacture of Cotton
V Distribution
VI Recent Trends

The class was told that this outline was to be a guide not only for class work, but in the preparation of their reports as well. Under each main heading were subdivisions, for instance:

I History

Use in ancient world

Finding by explorers to the New World

Why a Luxury

and under

II Climatic Requirements

Climate

Soil

Rainfall

When the teacher began this special lesson, she was familiar enough with her class to have them categoried as to abilities and capabilities under general class-room methods.

There were two students who repeatedly failed. One apparently was naturally dull. On the class lesson on the topic "Beverages" her marks had ranged from C minus to F in written recitations, oral recitations, and tests. This student appeared to be paying strict attention, was not troublesome so far as behavior went, and the three C minuses on oral recitations have been earned through strenuous effort.

The other student failure was a very pretty, attractive girl. She apparently made little effort to concentrate and had never learned how to study. Although personal assistance was given to her by the teacher, she

showed no improvement. For her failures she gave the excuse that her mother was ill and that she had no time to do her home-work; yet this same student in a study-period spent her time gazing and clock-watching.

The four honor or exceptional students presented no problem. One was essentially a scholar and not personally very interesting. Another two acquired their knowledge with earnest effort and through an avid interest in their school work, while the fourth, who was ingratiatingly charming and personable, learned with a minimum of effort and at a pace that was surprising.

But the average students present the greatest problems of themselves. One day a C and the next an A; today the revelation of wisdom beyond their years, and the next of stupidity that baffles. The average student besides being the most problematical is by far, because of his very humanity, the most interesting. To arouse him piques the teacher. There is a savor to gaining his attention.

For the purposes of revealing directly the effects of motivation the teacher concentrated on six of her average students whose characteristics may be briefly outlined as:

A - This student can achieve when aroused. The greatest obstacle to overcome in her case is her inattentiveness. Her average mark is C.

B - Her written work is fair, but she fails time after time in oral recitations. For this reason her mark averages a C plus.

C - Her particular pitfall is memorizing. She is ready and willing to take part in class recitation, although frequently she answers without thinking. In written tests either she does not apply herself or her memory lapses. Her term marks are not above C.

D - This girl is indefatigable. She likes an encouraging word now and then. In oral work she will not volunteer unless she is certain of the answer. Her first term mark was C; and her second term B minus.

E - This girl does excellent written work and keeps a note-book on which she has received A throughout the course. Her written tests are always poor, sometimes C, more often D. In oral work of any length she becomes nervous and shy, to such an extent that she is stuttering before she finishes. Her mark last term was C.

F - Here is the class wit, quick of comprehension and willing to take part in class work. Without conscious effort she provokes giggles. "Columbus bumped into America, that is why he did not go around the world" may be given as an illustration of what the teacher expects. She has ability, but does not exert herself. Her term marks for that reason have been C and C plus.

The results of this carefully prepared lesson planning were so gratifying as to warrant the additional time and effort expended by the teacher on motivation.

To take the failure who was naturally dull, there were two exceptions to be marked. One was the first quiz on an essay type question on which the student received an A minus grade and the other, which was even more phenomenal, was the written report. This could not be

excelled by many senior students. It was developed chronologically in the way of maps, charts, graphs, and samples. There was a minimum of written work, to be sure, and that mainly in topical outline form; but careful planning and thought on the subject were evident. The report was consistent, orderly in arrangement, neatly done. It deserved and received a grade of A plus and served to bring the student's term mark to a passing C minus.

Motivation affected the other failure not at all. This student's grade remained a low D. Her report was presented in a very attractive and beautiful cover with almost a quire of paper used for its opening including the title page and content table. The report itself was two and a half pages in length and the grade mark of D was more than just.

Among the exceptional students there was but one outstanding occurrence. The student classified as a"Scholar" invariably shunned oral recitation. She never volunteered, though when called upon answered correctly. The teacher had analyzed it as a shyness which could and should be overcome. During the Cotton lesson the teacher had called for an oral recitation at every possible opportunity and, not content with that, had suggested that the student volunteer on the debate. After persuasion, the student had acquiesed. In the debate the student proved that her reticence could be surmounted.

And in results, the average student again proves to be the most exciting. As they have been listed A, B, C in characterizing them, that arrangement will be continued.

A - This student on her last report card received a grade of C; this report card period her mark is to be B plus. For the first two months the course had followed primarily a detailed introduction of the subject "Beverages". There were three general tests on which the student had received grades of D, B plus, and C minus. Her oral recitations averaged a C minus and on four short quizzes the average equalled a C plus. On the specially motivated lesson on the essay type questions her grade averaged A minus; on the one-word type quiz her score was C, and on the general test she made a grade of A minus. Her Cotton report received a mark of B minus. Accordingly, her mark for the period was just below A minus, or a B plus.

B - Her mark this term has been brought up to a B through improved oral recitations. This improvement was achieved through the persistence of the teacher in calling on the student. Her written report also bettered her term mark, as she received an A minus. Usually her written work averages a C.

C - This student's memorizing habits were in part overcome through the teacher's efforts to furnish the student the memorized facts and asking her to supply a thoughtful answer. A question such as, "Why is cotton grown in our Southern States?" induces thought more than would, "Where is cotton grown in the United States?" Why? The lessening of this tendency to memorize assisted her also in her written work; that is her quizzes. Frequently on factual questions, such as the one-word type, she supplied the wrong answer because she wrote without thinking. Improved recitations and quiz marks gave her a term mark for this report card of B.

D - The teacher stressed her encouragement to this student, for she seems to thrive upon it. While her oral work still does not admit of "chance answers" she seems a little less hesitant to volunteer. Whether this is because she feels better acquainted with the teacher and her classmates or whether she is leaning towards "chance answers" has not yet been revealed. E very time she has been called upon her answers have been correct. Her report card mark for this term is B.

E - This is the student who does excellent work. Her cotton report bears witness to that fact. It is provoking that she does so poorly in her other work. On the topic "Beverages" her marks were on general tests D, C, and C; and on oral tests C, D, and C minus. Her marks on the motivated Cotton lesson did show that she is capable of better work for on the essay type quiz her grade was B plus; on the two factual quizzes both marks were C; and on her report she received an A. Her term mark, however, is again a C, for the previous lesson to the motivated Cotton unit pulled down her higher grades. At the time of the essay question she was called upon to read back her paper and she did this readily and without nervousness. It is evident that strict motivation during an entire report card period would improve her work.

F - This student with her ready answers and comical twists of speech has certainly improved under motivation, but she is one of the persons whom you can not easily judge. It may be that the topic appealed to her, or perhaps for some reason, unknown even to herself, she worked harder or applied herself. Her marks on the lesson previous to the cotton unit were on general tests C, C, and C; and on oral tests C, B, and D. She received on the tests on Cotton B in the essay type quiz and two B's on the factual type quizzes. Her Cotton report received a grade of A. She did improve; but whether it was the direct results of motivation or whether some ulterior motive motivated her cannot be ascertained. She is the type of student who dispels dreariness and listlessness, yet at times is inclined to be too wittily clever.

So much for the results of the motivation, and, before concluding, a word or two about the reports and of the debate.

Perhaps the report more than any one other factor made the Cotton lesson appealing, attractive, and profitable. Practically all of the students were working on their reports as the lesson progressed. A week after the Christmas recess they had been told that reports on Cotton would be a part of their assignment for the two month's work.

This outside work prompted a number of questions during class sessions, induced close attention to class discussions and recitations, and materially improved the general average of the entire class. While one long report is perhaps all that can be expected of a class during the course, they are invaluable in arousing the students.

The suggestion of the debate by the teacher may be attributed to a zeal on the part of this particular class for this particular form of class work. Normally only four periods are devoted to a topic like Cotton, Wool, or Silk, but the teacher had run somewhat ahead of schedule on her previous lessons. For this reason and because of her special motivation she extended the Cotton lesson over a two-week period. The suggestion of the debate was in the way of entertainment.

The Saint Lawrence Waterway treaty was chosen for its timeliness, its importance to Boston (the City in which the school is located), and its effects on transportation. In the debate itself the following information was presented in a very lively yet instructive manner;

The chief agricultural, mineral and forest products of the North Central States and of Canada.
The products that would enter foreign commerce
The present routes
The proposed new routes
The advantages of all-water transportation
The development of cheaper electric power

The importance of the waterway to the grain industry
The grain producing countries
The grain exporting countries
The grain markets
The country planning intensive agriculture

Monetary problems presented by the plan
The source of the money that will pay for it
The industries that may be favored by it
The profit that certain industries expect from it may warrant the expense
It may enable United States to compete with other wheat and grain countries.

The girls taking part in the debate arranged and selected their own materials from newspaper clippings and magazine articles. The class gave undivided attention and enjoyed the period. The listening members should never forget the products and transportation routes of the North Central section of the United States. They should remember always the wheat and grain countries of the world, as this part of the debate was most adequately discussed and the places indicated on the wall world map by one of the debaters.

The presentation, was, if anything, dramatic.

It was this same class who had previously conducted a debate on "The Recognition of Russia." This happened early in the fall of last year (1933), before the President had made his decision. In the debate the products Russia would have to export in payment of the loans made to her and the products she would import from the United States were expressively delivered. Until the President's decision the students watched the news items and commented on them in class. They had voted for the negative.

It is hoped that this detailed presentation of a lesson in an Appreciation type subject will prove that motivation is worthwhile. There will be teachers who disagree as to its direct results. They may argue that students today are essentially no different from students of a generation ago or a century ago, that only a few are meant for "learning". No doubt that is so; today in fact students are inclined to be more indifferent, for in those past years only the intellectually gifted were apt to seek more than an elementary school education. There was indeed at the beginning of the twentieth century no such department as the "Commercial" in our schools of secondary education.

Today it is not unusual to read in the papers of so-called self-made men; men of wealth, many of whom had not

a common school education. They began their careers as errand boys, boot-blacks, newsboys, and usually climbed steadily to their present positions as presidents of commercial organizations, captains of industry, statesmen of renown. In another generation self-made men will be fewer. If the present tendency of education for the masses continues, self-made men will be extinct. There will never be another Abraham Lincoln, another "Al" Smith.

And it is because of these tendencies that education today has become so problematical. In our schools are boys and girls who in a past era would be content with this world's more menial positions, the boys and girls to whom learning is boring and school imprisonment. They comprise the majority of the average students in the schools today and, as has been previously mentioned, the largest number of these students are found in the Commercial department.

It may be that motivation scarcely accelerates the greater number of them. It may be that the school room is merely the place where they spend five hours of the day, five days of the week. And it may be that their interest in Appreciation subjects especially is no more than migratory. But, to arouse even a small proportion of students to greater attention is something. And when motivation proves that not less than half a teacher's class-room have showed progress, it more than speaks for itself.

CONCLUSION

The function of education is to "foster man's inborn tendencies to social life, to acquire knowledge and to look to God."(1)Within a generation education has so embraced the masses as almost to exclude the untrained mind from positions embodying, even slightly, thought processes. Education, which our forefathers, considered only for divines and men of letters, is essential today not only for the professional man and the scientist but for the business man.

Secondary, or high school, education at public expense has become universally accepted in our country. Each year the number of graduates from the senior high schools increases. Professor Isaac Leon Kandel of Columbia University in a recent address at the Harvard School of Education said,

"The time is inevitably coming in most parts of the world when technological unemployment will compel society to retain all adolescents under some sort of educational provision; when what has hitherto been a privilege, even in such a country as this, will become a duty, and education at the secondary level will become compulsory."

(1) John Amos Comeniers

Among the proponents of the Child Labor Amendment to the Constitution are many educators who agree with Professor Kandel.

Although secondary education today may be a "privilege," it is a privilege of which the majority of boys and girls avail themselves; the compulsion coming perhaps from parents rather than the State. The majority of these students come from lower middle class and lower class homes. Upon graduation from high school their education will be completed. The positions they will most likely seek will be those which business has to offer.

It is not surprising therefore that Commercial courses have dwarfed the academic or classical courses in our secondary schools. The attention which educators, psychologists, even business men themselves are now giving to this phase of the school curriculum is warranted in view of present trends. Courses are continually being reviewed and revised; for it is conceded that a skilled typist or a proficient bookkeeper is not entirely fitted for complete living.

The stenographer or the bookkeeper certainly can, under normal conditions, earn his livelihood; but that earned, what of his leisure? A man's leisure time today is more than one-third of his working hours. In those Commercial courses in the curriculum where the appeal is aesthetic - such as Economic Geography and History -

instructors are expected to furnish motives that will guide the students into fields of thought providing intellectual entertainment.

The aim of secondary education is threefold; to provide vocational efficiency, to create civic capacity, and to inculcate personal culture. While educators in the secondary schools agree that there is still need of improvement, they are confident that comparison with the high school graduate of ten years ago and the graduate today will reveal accomplishment.

Considering the student in the secondary schools, it has been already stated that in the majority of cases he comes from a lower class or lower middle class home. A number of the group will know perhaps the meaning of the struggle for existence. They will know too that a pay envelope is a mighty factor in overcoming that obstacle. Many of them, no doubt, hear only clipped speech. A completed sentence may rarely reach their ears. The paper that they easily recognize is the tabloid.

This picture may be more consistently true of the Commercial group students than of the Academic group. This is essentially so because the Commercial course attracts those students who do not seek higher education.

Environment is not the only factor to be considered. There are other characteristics, innate and acquired, such

as intelligence, ability, desire to learn, will to work, and so on. Individual differences create the greatest problem of the class-room teacher.

There will be in a class as many varying characteristics as there are students. No two students are ever exactly alike. There will be the student with a mechanically bent mind who instantly perceives the typewriter mechanism's use, yet never learns to type; and vice-versa. The most skilled typist may be perhaps one of the slowest thinkers in the shorthand class. The student from whom you least expect aesthetic appreciation will perhaps outrival all his classmates.

There are surprises, but in the main students may be categoried. Their intelligence averages the same from subject to subject, and it is the teacher's task to guide that intelligence.

It is only natural to assume that the teacher understands clearly the purpose of secondary or high school education. This purpose has been already named. He should thoroughly realize that education is a problem in humanity. The student can no longer be considered as merely a "Chip off the old block" with no thoughts, ideas, or opinions except those which come from the parent block.

And as the teacher's problem is such a human one he should, to some measure, be capable of judging human

nature, noting characteristics, and catching reactions. All this is necessary if he is to make men of his students and not robots.

The teacher is dealing with girls and boys in their formative years. Their minds are actively receptive to impressions - what they see, what they hear. It is not only the teacher's duty, but his privilege, to formulate good habits, instill high ideals and purposes, and inculcate noble virtues; love, sympathy, courage, altruism are a few among the many that might be mentioned.

As the teacher expects his students to think, he must think himself. It requires no particular thought for a teacher to read through the text and conduct a recitation from the questions given at the end of the chapter. It is not a sign of exceptional cleverness for a teacher to repeat one hundred times or more, "Items on the left side of an account are debits". Texts are usually dull. Repetition is monotonous. "But that is the way the student learns!" exclaims the teacher. That may have been so a generation back; not today!

The teacher who is alert recognizes the need for attractive lessons, well planned. Lessons should be so arranged as to permit the inclusion of supplementary material, to allow for the presentation of facts in varied forms, and to take care of waning attention. The

lesson should have elasticity; that is it should be so devised as to permit the teacher to shift easily from one arrangement to another in order to present the lesson in the most effective manner.

Lesson planning and motivation are somewhat synonomous, or, better still, they are dependent on one another. In planning the teacher has to consider ways of arousing interest. Attention will not be given or zeal created unless the lesson is carefully prepared. Characteristic human instincts have already been enumerated, numerous concern - begetting methods listed. To repeat them would be spacetaking and time-wasting.

However, the need for motivation cannot be overstressed. It IS important. The average secondary school student attends school through necessity. Learning does not lure him. He has to be persuaded to conviction; but he can be persuaded. An appeal to his emotions stimulates him to thought, and thought once aroused follows through narrow channels, along intricate paths, and over rough mountains.

Emotions are warm; intellect is cold. The scholar is at times the least interesting of a teacher's student. He does not often display zest or enthusiasm, although this may be because the slow progress is wearisome to him. However, the scholars are few. The average students are like leaves upon a tree and, like leaves, they need to be

blown to action. In action they are invigorating; to themselves, to one another, and to their teacher. They enthuse and their enthusiasm may outlast the instructor's. They become zealous and are carried on without volition to further knowledge.

But apathy will shut down on them at times. It does on everyone. Fortunately, however, in group treatment theindifference comes in stages so that the teacher is forewarned. He should at this point immediately check his proceedings and commence with an entirely different appeal. If he has been appealing to their instinct of achievement, an amusing appeal would have perhaps the desired results, since achievement calls for concentration and amusement affords relaxation.

There are numerous laws on a great many subjects, but the laws of human behaviour are the least fixed of any. A person's reactions today do not necessarily foretell his reactions tomorrow. The student who is excited this week may afterward remain inactive throughout the course. The class conducted without conscious effort at motivation may respond more spontaneously than the class on which the teacher has expended every known devise of motivation.

There are no rigid rules that can be followed which will in every single instance obtain the same results, but from observation and experience it has been proven

that the more human teachers make their classes that much more effective will be their teaching.

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